ANNUAL REPORT

OF THE

PUBLIC WORKS DEPARTMENT

FOR THE YEAR 1942

[Document 24—1943]

Boston City Hospital
April 25, 1946

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ANNUAL REPORT

OF THE

PUBLIC WORKS DEPARTMENT

FOR THE

YEAR ENDING DECEMBER 31, 1942.

Boston, January 2, 1943.

Hon. Maurice J. Tobin,
Mayor of Boston.

Dear Mr. Mayor,— In compliance with the provisions of section 23 of chapter 3 of the Revised Ordinances of 1925, I respectfully submit the Annual Report of the Public Works Department for the year ending December 31, 1942.

The total budgetary expenditures of the department for the year were $6,720,489.63 and the total revenue from all sources, exclusive of the Sumner Tunnel and from the sale of water, amounted to $182,195.09. The Sumner Tunnel revenue amounted to $991,155 and the sum of $5,417,183.79 was realized from the sale of water and from other related services and work that is under the jurisdiction of the Water Division.

The surplus in the Water Division totaled $1,305,742.15, which is a modern all-time high and exceeds the 1941 surplus by approximately $666,000. Incidentally, the daily consumption of water increased from an average of 97,767,600 gallons in 1941 to 102,100,500 in 1942, which was probably due, principally, to increased industrial activities caused by the current war. The Sumner Tunnel deficit amounted to approximately $264,000, exclusive of the $100,000 subsidy paid out of

the State Highway Fund. This deficit is approximately $206,000 in excess of the previous year's deficit and was due, entirely, to the gasoline rationing which went into effect about the 1st of May. If the volume of vehicular traffic using the tunnel had followed the trend of the first four months of the year, the tunnel would have shown a surplus for the first time in its history. As stated, however, the curtailed use of gasoline, which was ordered by the Federal Government as a wartime measure, had the effect of drastically curtailing the use of the tunnel by vehicles. On the basis of the volume of traffic that used the tunnel for the first four months of the year, I predict that this essential facility will be self-supporting within two or three years after the war or within one year after normal conditions prevail, in so far as vehicular traffic is concerned.

There were 2,259 eligible employees on the rolls of the department as of December 31, including 104 employees who were granted leaves of absence for the reason that they were in the military service.

The water waste survey conducted in 1941 by the Pitometer Company, Inc., of New York in the High and Low Service systems in the so-called Sections 7–A and 7–B in the City Proper was completed in November with beneficial results to the city. The contract sum of $14,000 was paid to the contractor, as the value of the increased revenue that the department will receive as the result of the uncovering of leaks in the water system more than offsets the above-referenced contract price. I recommend that these surveys be continued and eventually extended to every section of the city, because the money spent on this work produces increased revenue to the city which more than offsets the costs of the contracts.

War Time Activities.

The department, under the direction of the Boston Committee on Public Safety, instituted and perfected an Air Raid Protection organization designed to protect and repair any structures that are under the jurisdiction of the department and which might be damaged due to air raids by enemy forces. These include all streets, bridges, sewerage and water structures, the pumping station and many other miscellaneous department owned or department controlled structures. Every

employee was assigned to a particular duty in the event of an air raid and the department participated in air raid tests held by the Safety Committee during the year. I feel confident that we shall, in the event of an air raid, be able to repair, within a reasonable time, any damaged structures that are under our jurisdiction.

The Boston Salvage Committee was formed in February and the undersigned was designated as chairman by the chairman of the State Salvage Committee. The Boston Committee was one of the first to be organized in this state and it has been functioning most effectively throughout the year in inaugurating salvage campaigns and supervising and directing the collection of all salvageable materials needed for military or essential civilian use.

The collection of prepared tin cans was started in August and continued every month thereafter during the year. In the five-month collection period, 1,700,560 pounds of tin cans were collected and shipped to The Vulcan Detinning Company of Sewaren, New Jersey. Collections were made during the third full week of each month by employees of the Public Works Department, using department trucks. We require the residents to place the prepared cans on the sidewalk in front of their premises before 10 a. m. on the scheduled day of collection. Our employees then go from street to street until every street in the city is covered, and collect tin cans and deposit them in the collection truck which then proceeds to the Cummings street (South End) freight siding and dumps the load of cans direct into a gondola-type of freight car from a ramp previously constructed by the department. The householders are cooperating very effectively in the saving of tin cans and the collection of this important material is proceeding satisfactorily.

In October a gigantic drive for scrap metal was conducted by the committee and, with the use of department employees and trucks, 8,140,000 pounds of scrap metal were collected and delivered to the yards of the scrap dealers, where it was sorted and shipped to the steel mills.

With the assistance and cooperation of the Boston Elevated Railway and the W. P. A. this department started on a project, in April, to remove all the abandoned street car tracks that were located in many streets of the city. The work continued throughout

the year and 2,043 tons of steel rails were recovered and shipped to steel mills designated by the War Production Board.

The war has created an acute shortage of tin and scrap metal and the collection of these essential materials in this city and other municipalities in the country has become mandatory and has done much to relieve the serious situation created by these shortages. The collection work has become an important wartime measure that is definitely an aid in the winning of the war.

A drive was also started for the salvaging of waste paper and the residents cooperated to such an extent in this drive that the waste paper market became glutted and the drive was suspended for the time being.

All revenues that the Salvage Committee derives from the sale of all salvageable material collected are donated to charity. Outstanding of the many contributions made was one in the amount of $10,000 to the Boston Community Fund drive.

Under orders of Federal authorities and in order to reduce the sky glow which was silhouetting ships and making them easy targets of enemy submarines, all electric street lights were provided with inside shields which set over the globes and the globes of all gas street lights were painted to a point below the light filament. These steps greatly reduced the lighting effect on the street surface, but it effectively reduced the sky glow and gave members of our armed forces and merchant marine the necessary protection from submarine attacks.

All department construction and reconstruction work was greatly curtailed, due to restrictions placed on materials by the War Production Board.

Ten-Year Refuse Disposal Contract.

The contract that the Coleman Disposal Company had with the city for the disposal of garbage and refuse collected from the following areas terminated on June 30:

South Boston.
Charlestown.
Dorchester (garbage only).
Roxbury.
Elm Hill (garbage only).
Back Bay.
South, North and West Ends
City Proper.

For some fifteen months prior to the expiration date of this contract I made a detailed study in order to

determine the best disposal system to adopt upon the expiration of the ten-year contract.

In the course of my study I visited, on several occasions, the comparatively new 750-ton incinerator (which is the last word in modern incineration) located on West 56th street, New York City, as well as incinerators located in Cincinnati, Providence and Brookline.

I also spent one entire day in New York City to familiarize myself with the so-called "Land-Fill" method of refuse and garbage disposal in which New York has pioneered and adopted to a large extent, even going so far as to close eleven of its twenty-three incinerators in favor of the Land-Fill system of garbage and refuse disposal.

I have also been materially assisted in making my findings regarding this important problem by examining and studying reports of an engineering nature prepared by the Boston Finance Commission, Division Engineer Post of the Sanitary Division of this department, and the engineering firm of Metcalf and Eddy, as well as two excellent financial reports submitted to me by City Auditor Charles Fox and the auditing firm of C. F. Rittenhouse & Company.

In my opinion, no stone was left unturned which might have aided me in making a complete study of the matter in order that I would be in a position to recommend, with confidence in my decision, a system of garbage and refuse disposal that would be practical for this city to adopt and would be sanitary and not unduly costly. While every system in use for the disposal of garbage and refuse has been studied and considered by me, I am including, for the purpose of this report, only those systems that could possibly be adaptable for Boston.

The so-called Land-Fill method of garbage and refuse disposal is comparatively new and, due to its great economy, has been adopted by many cities throughout the country, notably New York City. While the many cities that use the Land-Fill method vary somewhat in operation methods, fundamentally the methods are all similar in that garbage and refuse are collected simultaneously by a collection truck and hauled to a land dump and dumped directly into a trench or crater previously made by a so-called "dragline" crane in the process of removing suitable earth material which is used to cover the garbage and refuse. This earth

material, dumped in six inch layers to a maximum of thirty inches in depth, seals the entire exposed area of the garbage and refuse hauled to the dump each day, with the result that only that garbage and refuse hauled during the collection day is visible. By sealing the garbage and refuse with suitable earth fill each day, the ordinary objections to a land dump are removed; that is, flies and rats are eliminated and no objectionable odors are present as the decomposition of the putrescible matter takes place under a seal of 30 inches of earth fill. The big advantage of a Land-Fill is that it is very economical and costs only about one third to one half as much as incineration. It also has another advantage in making large areas of land available for development, with particular reference to increased recreational facilities.

I do not favor the Land-Fill method for Boston, however, that is in so far as the districts included in the present ten-year contract are concerned, because there is only one available site, namely, the so-called Mile Road dump, that could be utilized for Land-Fills. This would mean that all the trucks now hauling waste materials to the Fort Hill, Albany Street, and Victory Road receiving stations would be required to haul to the Mile Road dump. This would create an intolerable situation on the residential and semi-residential streets leading to the dump due to the increased truck traffic which would result from concentrating, on one area, the dumping of approximately 600 tons of garbage and refuse collected daily. Aside from that point, Land-Fill is not the permanent solution to the problem, as the Mile Road dump would not last, as a central dumping site, for more than four or five years. The proximity of the bathing beaches to the Mile Road dump also makes it inadvisable to concentrate dumping activities at that location.

The only other practical system for Boston to consider, in order to solve its garbage and refuse disposal problems for a period of at least fifty years, is incineration, and I recommend, without qualification, its adoption.

While this report relates only to the districts included in the ten-year contract, I might state at this time that incineration of all of Boston's garbage and refuse will have to be done within ten years, as all of the available land dumps are becoming filled and the farmers cannot be depended upon to collect the garbage for their hogs

indefinitely, particularly when there is a possibility that a state law will be passed, in the not too distant future, which will prohibit the feeding of garbage to hogs.

Incineration is more costly than the so-called Land-Fill method, but it is the only completely satisfactory method for disposing of garbage and refuse that Boston can adopt. Incineration destroys organic matter (which is the cause of rats, flies, and odors in land dumps) and all combustible material, leaving only clean ashes and incombustible materials, mostly tin cans, to be hauled to a land dump. This residue amounts to about ten per cent by weight of the original waste material. A modern, well-operated incinerator is not objectionable, as all odors are eliminated and only on rare occasions, such as when starting a new fire in a boiler, can you observe smoke coming out of the stack. Of all the incinerators that I visited, I never saw as much smoke being emitted by the stack as one might observe, on many occasions, coming out of the stack of a heating or power plant having oil or coal fired boilers.

While incineration is more costly than Land-Fill, it can be done at a lower cost per year than the system in effect under the provisions of the ten-year contract with the Coleman Disposal Company. Incidentally, the previous system was a combined system in that it provides for dumping on mainland dumps and at Spectacle Island and also includes a so-called garbage reduction process operated at Spectacle Island.

The ten-year contract provided for the payment to the contractor of an aggregate sum of $3,780,000, or an average of $378,000 per year.

To the latter figure $40,000 should be added, as it cost the city that amount to maintain the three receiving stations and to pay for salaries of employees assigned to those locations. It is seen, therefore, that it cost the city $418,000 a year to operate the previous system. If incineration is adopted, I estimate that the cost to the city will be $323,000 or $95,000 less than the previous system, although, in so far as sanitation is concerned, the previous system does not begin to compare with incineration. The estimated cost of incineration is based on the construction of two plants, one at a cost of $300,000, at or near the site of the Fort Hill receiving station, and another, at a cost of $1,400,000, at or near the site of the Albany street station.

The following is a detailed breakdown of the estimated annual costs of incineration:

LABOR.	TOTAL NUMBER OF EMPLOYEES.		RATE PER YEAR.	TOTAL COSTS.	
	Fort Hill Plant.	Albany Street Plant.		Fort Hill.	Albany Street.
Chief engineer	–	1	$3,400	–	$3,400
Foreman	1	–	2,800	$2,800	–
Weigh clerks	2	2	1,800	3,600	3,600
Dumping floor man	1	–	1,600	1,600	–
Traffic man	2	2	1,600	3,200	3,200
Dumping helper	2	2	1,600	3,200	3,200
Clean-up men	2	2	1,600	3,200	3,200
Cranemen	4	8	2,600	10,400	20,800
Charging floormen	7	24	1,600	11,200	38,400
Ash tunnel drivers	4	8	1,800	7,200	14,400
Engineers	–	4	2,700	–	10,800
Electricians	–	1	2,400	–	2,400
Mechanic	–	1	2,400	–	2,400
Utilitymen	–	4	1,600	–	6,400
Clerk	–	1	1,800	–	1,800
Watchmen	1	–	1,600	1,600	–
Inspectors	2	4	2,100	4,200	8,400
Stokers	7	24	2,200	15,400	52,800
Ash tunnel labor	4	8	1,600	6,400	12,800
Total labor costs				$74,000	$188,000
Maintenance and repair				5,000	15,000
Heat and light				12,000	–
Ash disposal (residue)				4,000	5,000
Total operating costs				$95,000	$208,000
Credit for utilization of waste heat				–	95,000
Net operating costs				$95,000	$113,000
Average annual fixed charges				*19,000	†88,200
Total costs				$114,100	$201,200
					$315,300
Miscellaneous					‡$7,500
Grand total annual cost					$322,800

* Capital expenditure — $300,000, 20-year bonds at 2½ per cent.
† Capital expenditure — $1,400,000, 20-year bonds at 2½ per cent.
‡ Cost to dispose of materials not to be incinerated, such as 80 tons of ashes and 50 cubic yards of catch-basin cleanings collected each day and also the garbage in the southerly section of Dorchester.

The Fort Hill plant is to have a capacity of 175 tons per day and is to operate five days a week, twenty-four hours a day. The Albany street plant is to have a capacity of 700 tons per day and is to operate seven days a week, twenty-four hours a day.

No use is to be made of the available waste heat of incineration at the Fort Hill plant, but at the Albany street plant we plan to use the waste heat for the purpose of developing steam and supplementing the power plant at the City Hospital in furnishing part of the heat, light and power now furnished by the City Hospital plant to the hospital and some of the Public Works Department buildings located on Albany street. The excess waste heat resulting from incineration should be sufficient to provide for the entire needs of the hospital for five months of the year and for its partial needs for the remaining seven months. In other words, the present personnel of the City Hospital plant used in the operation of the boilers could be used for some other purpose or transferred to some other department for five months of the year because the incinerator could furnish all of the steam needed during those months. In estimating the saving that would result to the hospital if an incinerator were constructed, no allowance, however, was made for any saving in salaries. The estimated annual saving of $95,000 is based on a saving for fuel oil only and, in view of this, the estimate unquestionably is a conservative one.

The decision to abandon the previous system of disposal of garbage and refuse and adopt incineration was made by me in December of 1941, subsequent to the Japanese attack on Pearl Harbor. Although, at that time, I felt that it would be impossible to obtain the materials and skilled workers necessary in the construction of the proposed plants, I made plans to go ahead with the proposed construction, in the hope that, despite the war, the construction materials would be available. I actually selected a site for the incinerator that is to be erected on city-owned land near the City Hospital, and awarded a contract for the taking of borings at the proposed site. The borings have been taken, but that is as far as the matter has gone because of events that followed shortly after the Pearl Harbor attack.

Because of conditions caused by the war, I concluded in January of 1942 that, in the best interests of the City and the Federal Government, we should proceed,

in so far as matters affecting the construction of the two proposed incinerators were concerned, as follows:

1. Defer starting actual construction of the incinerators until the end of the war because of the following reasons:

(*a*) The drain on a material, namely, steel which is vital to the country's success in the war, could not be justified, for the simple reason that incineration is not the only system available for the disposal of garbage and refuse. Incidentally, it is estimated that 1,520 tons of steel will be needed in the construction of the two incinerators.

(*b*) The chief fuel, namely, waste paper, used in incinerators to burn the garbage and all other semi-combustible refuse, was being salvaged and reprocessed for military and essential civilian uses as a war conservation measure. This factor alone discouraged giving further consideration, at that time, to the erection of incinerators because, if incineration is to be done with any degree of economy, waste paper must be used as fuel and not the costly and precious fuel oil or coal.

(*c*) The cost of constructing the incinerators will probably be much less after the war than it would have been under war conditions.

(*d*) A Federal agency, such as the old P. W. A., will probably be established at the end of the war to take up the slack in unemployment and to assist municipalities to finance worthwhile construction projects of this type. With the total cost of the incinerators estimated at $1,700,000 it is not unreasonable to assume that the saving to the city, through Federal aid alone, will approximate $500,000.

After deciding to postpone the erection of the two incinerators, the city now had the choice of two available disposal systems, one of which was the then current system, or a modification of same, and the second, the so-called Land-Fill method of disposal.

The Land-Fill method restricted us to the Mile Road dump with the inherent disadvantages outlined in the first part of this report, and, in view of this, I was not inclined to look upon it favorably unless we had no alternative; that is, unless we could not make satisfactory arrangements to keep the current system — or a modification of it — in effect until at least one year after the end of the war, which would provide sufficient time for the erection of the proposed incinerators.

To keep the current system in effect, however, we were limited to negotiating with the Coleman Disposal Company, because it controlled Spectacle Island, owned the plant at that location, and also the scows used in

transporting the garbage and refuse from the mainland to the island. Unquestionably, we could have acquired the entire plant and equipment of the contractor by right of eminent domain, but the price would have been prohibitive (it carried a book value of approximately $400,000), particularly as I did not feel that we would have to keep the current system in excess of a two-year period.

The system to adopt, upon the completion of the then current contract, depended, therefore, on our making satisfactory arrangements with the Coleman Disposal Company regarding a continuation of the system, or a modified form of same. If our negotiations were unsuccessful, we would have to adopt the Land-Fill method and utilize the Mile Road dump as a dumping site. This would mean that we would have to acquire the land by right of eminent domain, and invite proposals, after publicly advertising for same, from contractors to actually conduct the Land-Fill operations. We were prepared to do this if we could not make satisfactory arrangements with the Coleman Company, and engineers of this department have cross-sectioned the Mile Road dumping area in order to determine the volume of available filling space.

I felt, strongly, that the interests of the city would be best served, however, if the current system were kept in effect during the wartime and pending the construction of incinerators, because the Coleman Company had always done the disposal work satisfactorily, and I have never received any serious complaints either because of the Mile Road dump or Spectacle Island. The current system had been in effect for at least thirty years and to change to a system that was to be only of a two-year duration did not appear to me to be the sensible thing to do unless we had no alternative.

With these thoughts in mind, therefore, I started negotiating with representatives of the Coleman Disposal Company in January of 1942, regarding the executing of a contract similar to the current one and which was to take effect upon the expiration, on June 30, of the contract. I had many conferences with said representatives regarding this matter and a satisfactory agreement was reached in June.

The agreement provided for a one-year contract at a contract price of $265,000. The agreed price was $113,000 less per year than that paid under the previous

contract, and it also was considerably less than my estimated cost of incineration. It provides for substantially the same work included in the previous contract, except that it does not require the Coleman Company to dispose of garbage at Spectacle Island by incineration or by the so-called reduction process required under the provisions of the previous contract. It requires the company to handle the same volume of material as heretofore and the same districts are included in the new contract that were included in the old one. The city, therefore, is receiving exactly the same kind of service under the new contract, in so far as the actual disposal of garbage and refuse from the area included in the contract is concerned, as under the existing contract, but is actually paying $113,000 less per year for the service. This is why, in my opinion, the agreement reached by the city with the Coleman Disposal Company was the best one possible and, unquestionably, is advantageous to the city.

The work under the new contract is proceeding satisfactorily and the method of disposal is, in my opinion, more sanitary than the previous one.

Appended hereto are detailed reports submitted to me by the division engineers covering the activities of their respective divisions during the year.

Respectfully submitted,

George G. Hyland,
Commissioner of Public Works.

The records of the department show that there are now 2,259 persons eligible for employment in the several divisions, and of that number 2,032 were upon the January, 1943, pay rolls.

Grade and Number of Employees.

TITLE.	SERVICES.									
	Central Office.	Paving and Lighting.	Sewer.	Sanitary.	Street Cleaning.	Bridge.	Ferry.	Tunnel.	Water.	Total.
Commissioner	1	....	....	....	....	....	....	....	....	1
Division engineers	....	1	1	1	....	1	....	....	1	5
Engineer, chief	....	1	....	....	....	....	....	....	....	1
Assistant engineers (civil)	....	14	28	1	....	11	....	....	5	59
Draftsmen	....	3	5	....	....	....	....	....	1	9
Instrumentmen	....	11	13	....	....	3	....	....	3	30
Rodmen	....	9	4	....	....	1	....	....	....	14
Blueprinters	....	....	5	....	....	....	....	....	....	5
Superintendents	....	2	....	....	....	....	....	....	....	2
Supervisors	1	2	....	1	....	....	....	....	....	4
General foreman	....	....	....	....	....	....	....	....	1	1
Foremen	....	10	7	14	13	1	....	1	8	54
Chief inspectors	....	1	2	....	....	....	....	....	1	4
Inspectors-subforemen	....	48	27	40	28	2	....	2	14	161
Executive secretaries	1	....	....	....	....	....	....	....	1	2
Chief clerks	....	1	1	....	....	....	....	....	2	4
Executive clerks	1	1	1	....	....	1	....	....	2	6
Clerks-stenographers	7	26	11	5	1	3	1	6	49	109
Telephone operators	....	1	....	....	....	....	....	....	1	2
Cashiers and assistants	....	....	....	1	....	....	1	1	2	5
Storekeepers	....	....	....	1	....	....	1	....	1	3
Patternmaker	....	....	....	....	....	....	....	....	1	1
Veterinarian-medical inspectors	....	....	....	....	2	....	....	....	....	2
Chemist and assistant	....	1	....	....	....	....	....	....	....	1
Cement testers and assistants	....	....	2	....	....	....	....	....	....	2
Captains	....	....	....	....	....	....	3	....	....	3
Quartermaster-pilots	....	....	....	....	....	....	4	....	....	4
Deckhands	....	....	....	....	....	....	10	....	....	10
Matrons	....	....	....	....	....	....	4	....	....	4
Carried forward	11	132	107	64	44	23	24	10	93	508

Grade and Number of Employees.— Concluded.

TITLE.	SERVICES.									
	Central Office.	Paving and Lighting.	Sewer.	Sanitary.	Street Cleaning.	Bridge.	Ferry.	Tunnel.	Water.	Total.
Brought forward	11	132	107	64	44	23	24	10	93	508
Engineers (steam)	...	9	4	...	...	...	4	....	....	17
Oilers	....	....	9	....	....	....	5	....	....	14
Firemen	....	1	4	....	....	....	10	....	....	15
Gatemen-tollmen-guards	....	....	5	....	....	....	11	33	....	49
Sergeant-tollmen-guards	....	....	....	....	....	....	....	4	....	4
Gatemen-filth hoisters	....	....	4	....	....	....	....	....	....	4
Meter readers	....	....	....	....	....	....	....	....	29	29
Drawtenders and assistants	....	....	....	....	....	136	....	....	....	136
Chief and electricians	....	....	2	....	....	1	....	14	....	17
Master mechanics	....	3	....	1	....	....	2	....	4	10
Auto mechanics-repairers	....	24	3	1	1	....	....	....	....	29
Blacksmiths-horseshoers	....	4	1	14	....	....	....	....	1	20
Carpenters-joiners	....	9	3	1	....	10	2	....	....	25
Harnessmaker and assistant	....	....	....	1	....	....	....	....	....	1
Machinists	....	....	3	....	....	2	3	3	10	21
Painters	....	7	....	7	....	2	2	....	....	18
Pavers	....	31	....	....	....	1	....	....	....	32
Plumbers-pipefitters	....	....	....	....	....	....	3	....	131	134
Boilermakers	....	....	1	....	....	....	1	....	....	2
Riggers-roofers	....	....	....	....	....	....	2	....	....	2
Sewer cleaners-flushers	....	....	27	....	....	....	....	....	....	27
Catch-basin cleaning machine operators	....	....	6	....	....	....	....	....	....	6
Stonecutters-brick masons	....	5	5	1	....	....	....	....	1	12
Wheelwrights and assistants	....	2	....	4	....	....	....	....	....	6
Head chauffeurs	....	5	....	....	....	....	....	....	....	5
Chauffeurs, etc	....	69	29	61	104	5	....	14	42	324
Working foremen laborers, etc	....	2	2	....	1	3	....	....	....	8
Laborers, teamsters, etc	....	178	54	188	230	6	5	9	71	741
Wharfinger	....	....	....	1	....	....	....	....	....	1
Yardmen and yardmasters	....	5	2	2	2	1	....	....	1	13
Constables	....	3	....	....	18	....	....	....	8	29
Totals	11	489	271	346	400	190	74	87	391	2,259

Number of Employees Actually Employed January 1, 1942, and January 1, 1943.

	Tunnel.	Central Office.	Bridge.	Ferry.	Water.	Paving and Lighting.	Sanitary.	Street Cleaning.	Sewer.	Total.
January 1, 1942.....	77	11	188	74	394	445	346	257	264	2,056
January 1, 1943.....	81	11	181	74	369	471	333	372	270	2,032
Total Eligible Force.										
January 1, 1942.....	79	11	191	78	401	457	350	262	275	2,104
January 1, 1943.....	87	11	190	74	391	489	346	400	271	2,259

Appointments, Transfers, Resignations, Retirements, Deaths, Etc., of Employees.

Died.	Retired.	Transferred to Other Departments.	Transferred to Other Services.	Discharged.	Resigned.	January 1, 1942.	Services. 1942–1943.	January 5, 1943.	Transferred from Other Services.	Transferred from Other Departments.	Reinstated.	Appointed.
....	....	.....	....	....	....	11	Central Office.....	11	....	.....	....	.....
5	9	.....	1	....	3	191	Bridge.....	190	3	.....	1	13
1	4	1	....	....	3	78	Ferry.....	74	3	.....	....	2
2	7	3	13	....	13	457	Paving and Lighting.....	489	12	5	5	48
6	10	.....	46	1	10	350	Sanitary.....	346	19	1	2	47
5	8	.....	22	....	24	262	Street Cleaning.....	400	45	.....	4	148
3	9	.....	1	....	4	275	Sewer.....	271	3	3	1	6
8	13	1	4	1	10	401	Water.....	391	1	.....	3	23
....	1	4	3	....	3	79	Tunnel.....	87	4	2	1	12
30	61	9	90	2	70	2,104	Totals.....	2,259	90	11	17	299

MAINTENANCE APPROPRIATIONS AND EXPENDITURES.

DIVISION OR SERVICE.	Total Appropriations, Including Transfers.	Expenditures.	Unexpended Balance.
Central Office	$31,776 37	$31,734 94	$41 43
Bridge Service	404,728 72	404,444 18	284 54
Ferry Service	232,992 62	224,670 24	8,322 38
Tunnel Service	260,399 00	245,585 26	14,813 74
Paving Service	882,149 54	874,640 25	7,509 29
Lighting Service	954,183 26	952,659 28	1,523 98
Sanitary Division	2,263,349 28	2,260,404 99	2,944 29
Sewer Division	372,575 50	370,363 30	2,212 20
Water Division	1,050,540 00	1,024,086 40	26,453 60
	$6,452,694 29	$6,388,588 84	$64,105 45
WORK RELIEF PROGRAM:			
Bridge Service		$2,378 98	
Paving Service		235,822 68	
Sewer Division		93,699 13	
Totals		$6,720,489 63	

EXPENDITURES FROM SPECIAL APPROPRIATIONS, ETC.

Bridges, Construction of (revenue)	$62,457 62
Bridges, Construction of (non-revenue)	177,562 38
Bridges, Repairs, etc.	13,651 72
Ferry Improvements, etc.	9,972 86
Public Ways, Construction of (revenue)	120,279 01
Public Ways, Construction of (non-revenue)	287,281 77
Reconstruction of Streets	1,810 35
Sidewalks, Construction and Reconstruction of	38,113 95
Snow Removal	233,360 08
Sewerage Works (revenue)	16,685 95
Sewerage Works (non-revenue)	353,238 69
Water Main Construction (P. W. A.)	15,515 14
Totals	$1,329,929 52

REVENUE.

On Account of Public Works Department.

Central Office:		
Sale of plans, etc.		$679 00
Bridge Service:		
Clerical service	$250 00	
Charlestown Bridge, rents	1,683 33	
Chelsea North Bridge	19,383 37	
Chelsea South Bridge	123 75	
Damage to property	35 00	
Junk	9 57	
Meridian Street Bridge	20,025 79	
		41,510 81
Ferry Service:		
Tolls	$16,771 14	
Rents	176 67	
Cleaning telephone booths	6 00	
Commission on telephones	6 65	
Junk	31 05	
		16,991 51
Sumner Tunnel:		
Tolls	$991,160 64	
From State	100,000 00	
		1,091,160 64
Lighting Service:		
Damage to posts		188 00
Paving Service:		
From assessments on abutters for cost of laying sidewalks in front of their premises, including material for same:		
Assessments added to taxes	$3,631 78	
Assessments paid in advance	488 14	
Unapportioned assessments	5,052 14	
Permits	9,721 57	
Sale of materials, etc.	809 43	
Labor and materials furnished	1,474 79	
Repair of signs, etc.	21 15	
Rent of land	480 00	
Public ways, construction of (from Commonwealth)	6,184 13	
Street openings account	7,755 60	
Refunds	12 28	
Sale of rails	26,387 72	
Rent of road roller	120 00	
Damage to automobile	5 00	
		62,143 73
Sewer Service:		
Disposal of sewage	$20,837 00	
Labor and materials furnished	231 79	
Entrance fees	860 34	
Junk	307 66	
Rent	191 67	
		22,428 46

Sewerage Works. (Assessments under chapter 450, Acts of 1899):		
Added to taxes	$20,541 63	
Paid in advance	3,263 93	
Unapportioned	2,999 36	
Services of inspector	161 72	
Federal grant	832 51	
Miscellaneous	17 00	
		$27,816 15
Sanitary Service:		
Collection of commercial waste	$8,200 94	
Sale of junk, etc.	1,527 48	
Sale of manure	654 01	
Labor	55 00	
		10,437 43
Water Service:		
Water rates	$4,982,997 68	
Water added to taxes	213,181 94	
Tax titles	53,613 15	
Service pipes for new takers, extending, repairing, etc.	12,959 18	
Fees on overdue rates	2,565 43	
Sale of junk, etc.	5,148 48	
Elevator and pipe connections	3,068 70	
Damage to property	1,407 09	
Relocating hydrants	1,050 87	
Labor and materials	22,172 24	
Testing meters	123 00	
Weighing fees, etc.	565 11	
Reimbursement	18,598 00	
		5,317,450 87
Grand Total		$6,590,806 60

PART II.

APPENDICES.

APPENDIX A.

REPORT OF THE DIVISION ENGINEER OF THE BRIDGE AND FERRY DIVISION.

Boston, January 2, 1943.

To the Commissioner of Public Works.

DEAR SIR,— I respectfully submit the following report of the income, expenditures and operation of the Bridge and Ferry Division for the year ending December 31, 1942. The appropriations and expenditures of the division were as follows:

Bridge Service.

Regular appropriation, 1942	$411,262 26
Transfers to	946 46
	$412,208 72
Transfers from	7,480 00
	$404,728 72
Expenditures for 1942	404,444 18
Balance	$284 54

Bridges, Repairs, Etc.

Balance for 1941	$1,181 04
1942 appropriation	25,000 00
	$26,181 04
Expenditures, 1942	13,651 72
Balance	$12,529 32

Bridges, Construction of.

Balance from 1941	$568,430 94
Expenditures, 1942	240,020 00
Balance	$328,410 94

Public Ways, Construction of.

Expenditures, 1942	$25,142 32

Work Relief Program.

Expenditures, 1942	$2,378 98

Ferry Service.

Balance for 1941	$4,491 18
1942 appropriation	233,439 44
	$237,930 62
Transfers from	4,938 00
	$232,992 62
Expenditures	224,670 24
Balance	$8,322 38

Ferry Improvements, Etc.

Appropriation	$23,000 00
Expenditures	9,972 86
Balance	$13,027 14

Sumner Traffic Tunnel.

Regular appropriation, 1942	$260,399 00
Expenditures	245,585 26
Balance	$14,813 74

The above does not include certain expenditures for construction work for other divisions and departments, which work was supervised by the engineers of this division.

Under orders of the Department of Public Utilities, Commonwealth of Massachusetts, schedules of tolls and charges for the use of the Sumner Traffic Tunnel, between Boston Proper and East Boston, were approved, covering the year 1942.

The city has been operating only one ferry, the so-called "South Ferry," since early in 1933, with the Boston terminus at Eastern avenue and the East Boston terminus at Lewis street.

Federal Relief Projects.

No Federal Relief Projects were sponsored by this division during 1942.

The more important works undertaken during the past year in the Bridge and Ferry Division were bridge construction work on Charlestown Bridge, over the Charles river, bridge construction work on various bridges, building a footway at Parsons street, Brighton, construction work on the draw span of Meridian Street Bridge, over Chelsea Creek, construction work on the Longfellow Bridge, over Charles river, removing snow and ice in snow area No. 3, construction work on Malden Bridge, repairing Summer Street Bridge over Reserved Channel, construction work on Summer Street Bridge over Reserved Channel, construction work on West River Street Bridge, repairs to steel ferry bridge, South Ferry, north slip, Boston side, repairing hull, etc., of ferryboat "Charles C. Donoghue," repairing hull, etc., of ferryboat "Ralph J. Palumbo," erecting chain link fence to protect transformers, Sumner Tunnel, resurfacing tunnel with granite block and Ultimite block, and removing snow and ice in area No. 2.

Bridge Service.

Charlestown Bridge Draw.

On September 2, 1941, the Mayor approved a contract with Baker & Co. for bridge construction work on Charlestown Bridge, over the Charles river. The wooden deck was removed on the side roadways and replaced with Irving type steel deck. All the steel work was cleaned and painted. The center roadway was removed and replaced with wood deck. The work was completed November 1, 1942, at a cost of $57,208.02.

Meridian Street Draw.

On November 8, 1941, the Mayor approved a contract with Marinucci Bros. & Co. for construction work on the draw span of the Meridian Street Bridge. Work was commenced December 15, 1941. The entire wood deck of the draw span was removed and replaced. The draw foundation was strengthened and braced. The

machinery was overhauled and the steel structure was repaired. Work was completed May 1, 1942, at a cost of $37,509.89.

Various Bridges.

On September 2, 1941, the Mayor approved a contract with Martin Kelly for repairs to the deck systems of various bridges. (See annual report of the Public Works Department for 1941.) Repairs were made to the following bridges in 1942, under this contract: Broadway Bridge (over Boston & Albany Railroad), Dover Street Bridge, over Fort Point Channel; Jones Avenue Footbridge, Toll Gate Way Footbridge; West Fourth Street Bridge. Work was commenced September 11, 1941, and completed February 20, 1942, at a cost of $67,270.03.

Malden Bridge.

A contract was approved by the Mayor with A. D. Daddario, under date of January 26, 1942, for construction work on the Malden Bridge, over the Mystic river. The contractor removed the old wooden deck on the draw span and replaced it with Irving type steel decking; cleaned and painted the bridge; rewired lights for 110-volt instead of 550-volt current and repaired all steel work. Work was started June 29, 1942, and is not yet completed. The sum of $29,847 has been paid on this contract to date.

Summer Street Bridge, over Reserved Channel.

A contract was approved by the Mayor with W. H. Ellis & Son Company, on May 1, 1942, for repairing the Summer Street Bridge, over the Reserved Channel. After this bridge was inspected by a diver it was found that many piles on both approaches were eaten so badley by borers that the structure was becoming unsafe. The contractor placed steel cylinders, filled with concrete, around the piles and made other necessary repairs to put the structure in good condition. Work was started November 8, 1941, and completed May 1, 1942, at a cost of $5,697.64.

Summer Street Bridge, over Reserved Channel.

A contract was approved by the Mayor with Marinucci Brothers & Co., on January 2, 1942, for construction

work on the Summer Street Bridge, over the Reserved Channel. Work was started April 29, 1942. About 80 feet of the Boston approach and 120 feet of the South Boston approach and all of the draw foundation were rebuilt; the wood deck was removed from the draw span and replaced with Irving type steel deck on yellow pine stringers. Work will not be completed until 1943. A total of $50,333.50 was paid the contractor in 1942.

Boston and Cambridge Bridges Commission.
Longfellow Bridge.

A contract was entered into by the Boston and Cambridge Bridges Commissioners, with J. A. Singarella Company, on November 26, 1941, for construction work on the Longfellow Bridge, over the Charles river. Work was started December 6, 1941, and completed December 23, 1942. All the streel work was inspected and where found necessary was replaced or repaired. The cast-iron fence was also repaired or replaced where necessary. The total cost of the work amounted to $59,998.16. One half of this amount was paid by the City of Boston and one half by the city of Cambridge.

Highway Division.

Parsons Street Footway.

A contract was approved by the Mayor with V. J. Grande Company, on October 25, 1941, for building a footway at Parsons street, Brighton. Work was started November 10, 1941, and completed April 18, 1942, at a cost of $14,901.21.

West River Street Bridge, over Mother Brook.

On October 6, 1942, the Mayor approved a contract with John P. Shea Company, Inc., for construction work on the West River Street Bridge, over Mother Brook. The work was started on October 19, 1942, and the contractor removed the old wooden bridge, built concrete abutments and placed steel stringers and concrete deck. The work will be completed in 1943. A total of $2,366.48 was paid the contractor in 1942.

Day Labor Force.

The day labor force patched and replaced deck sheathing, headers and sidewalk planking on the various bridges; repaired platforms, refastened treads, cleaned and painted drawhouses and shelter houses; made repairs to drawhouses and controller houses; added to and deducted from counterweights; repaired steps; removed snow and ice from bridges and sanded same; repaired piers; painted fences and gates; did general carpenter work and painting and made mechanical repairs, etc., repaired wood block paving, refastened treads on various bridges; repaired and rebuilt gates at various bridges; repaired floats; built and repaired sand boxes; rebuilt coal bins at various bridges; repaired boats; set glass at various drawhouses; painted lockers at drawhouses; made miscellaneous small repairs at various bridges, etc.

The maintenance force cleaned the bridge sidewalks and steps in the intown areas of snow and other refuse during the entire year. Electrical and machinery maintenance was taken care of by the electricians and machinists.

Another duty of the division during the winter months was the supervising and inspecting of snow loading and removal from snow area No. 2, in common with other divisions of the department. This work was done under contract.

In the course of the year part of the activities of the office force were taken up in work for other divisions and departments of the city. While these efforts, spread over the entire period, did not require a considerable amount of the time, the nature of the work was of an advisory and investigating nature.

FERRY SERVICE.

The following ferryboats are in commission:

NAME.	When Built.	Length.	Gross Tons.
Charles C. Donoghue.....	1926	174 feet, 4 inches	756.77
Daniel A. MacCormack.....	1926	174 " 4 "	756.77
Ralph J. Palumbo.....	1930	174 " 4 "	779

All these boats are of the propeller type and are all steel boats.

The work of this service for the year consisted of the following:

Repairs to Steel Ferry Bridge, South Ferry, North Slip, Boston Side.

On May 11, 1942, the Mayor approved a contract with J. A. Singeralla for repairs to steel ferry bridge, South Ferry, north slip, Boston side. The bridge was jacked into place; the contractor renewed outer hanger plates and repaired or replaced the steel work. The bridge was also cleaned and painted. Work commenced May 13, 1942, and was completed August 21, 1942, at a cost of $8,587.77.

Ferryboat "Charles C. Donoghue."

Upon the expiration of the ship's papers in December, 1941, a contract was prepared to cover all necessary repairs to again put the boat in service in proper condition and to meet the requirements of the United States Steamboat Inspection Service.

On April 25, 1942, the Mayor approved an advertised contract with the Quincy Dry Dock and Yacht Corporation, for doing the necessary work.

The work included hauling the ship out of the water on a marine railway, cleaning and painting the hull and superstructure inside and out and making designated routine repairs, renewals and adjustments to the main engines, auxiliaries, piping, valves, etc. There was also included in the work the furnishing of a new bronze piston rod for the main condenser unit, the furnishing of new dampers in the uptakes from the boilers and the fitting of one new piston ring in one high pressure and one low pressure piston.

Work under this contract was completed on July 3, 1942, at a total cost of $17,624.60.

On December 23, 1942, the air pump and dome of the condenser failed utterly. The ship was taken out of service at once on orders from the United States Steamboat Inspection Service.

Ferryboat "Ralph J. Palumbo."

The ship's papers of this boat expired on July 21, 1942, but due to the lack of funds for such work as

repairs incidental to a general overhaul of the vessel, the contract covering the work to be done was held in abeyance until December.

On December 12, 1942, the Mayor approved a contract with the Quincy Dry Dock and Yacht Corporation for making only such repairs as would be required by the United States Steamboat Inspection Service. Under normal circumstances, to insure the life of the ship and reduce maintenance costs to a minimum in the following year, good practice would have been to make a general overhaul of the hull and machinery. However, since it was necessary to get the ship in commission in the shortest time, only limited repairs were called for in the specifications of the contract.

Work started at once but was not completed during the current year.

Department Force.

During the year machinists, carpenters, painters, riggers and electricians, who are included in the personnel of the Ferry Service, made all repairs possible to the plant to the extent of equipment at their disposal. This work consisted mainly of minor repairs to the machinery on the boats, repairs to ferry bridge machinery, ferry bridge roadways and headhouse repairs in general.

Sumner Tunnel.

On April 25, 1942, the Mayor approved a contract with P. J. Dinn & Co. for erecting a chain link fence to protect transformers at the Sumner Tunnel. Work started June 24, 1942, and was completed July 23, 1942, at a cost of $3,197.

Resurfacing in Sumner Tunnel with Granite Block, Brick Block and Ultimite Block.

On May 12, 1942, the Mayor approved a contract with Edward M. Matz for resurfacing in Sumner Tunnel with granite block, brick block and Ultimite block. This work was supervised by the Highway Division. Work started June 30, 1942, and was completed October 1, 1942, at a total cost of $15,327.30.

Summary of Work During 1942.

Personnel.— During the year 1942 eight employees of the Tunnel Service entered the armed services of the United States.

Tunnel General.— All catch-basins, drop inlets and sumps were cleaned; repairs to tunnel roadway were made as needed; tunnel walls were washed two or three times a month; all repairs and cleaning work were done after 12 o'clock and with no interference to traffic. The exhaust air duct was also cleaned.

Power.— The power supply is received from the Boston Edison Company at 13,800 volts, and is transformed to other voltages for use on fans, pumps, heating and lighting, elevators, motor generators, and the toll registering equipment.

	1939.	1940.	1941.	1942.
Total kilowatts	2,965,340	3,091,410	3,177,004	2,912,544
Number of vehicles	5,936,007	6,309,524	7,362,848	6,770,855

Ventilation Fans, Motors, Dampers.— All fans, motors, and dampers were cleaned and repaired and adjustments made as required. All motor controllers cleaned and adjusted as was necessary.

Circuit Breakers, Oil and Air Type.— All oil has been tested and replaced as needed. All breakers tested and adjustments made as required for efficient operation.

Relays, Transformers.— All oil in transformers tested and changed as required. All relays have been inspected, tested and adjusted and set.

Toll Registering Equipment.— Monthly insulation resistance and pressure tests were made on all treadles. Defective treadles were removed and repaired. All registers and key boxes are in excellent working condition, and are under supervision at all times.

Carbon Monoxide Equipment.— All chemicals were changed in accordance with a definite schedule. All of the analyzers have been calibrated and adjusted.

Pumping Equipment.— The main harbor pumps and the two portal pumps have been cleaned, painted and are in good condition.

Telephone System.— Replaced all defective induction coils, cords and instruments. Relays were adjusted as needed.

Traffic Signals.— All relay panels cleaned and overhauled; broken glass in signal units has been replaced as required.

Storage Batteries.—Emergency storage batteries were inspected and charged at regular intervals. A semi-

annual inspection by the Philco Storage Battery Company shows these batteries to be in good condition.

Motor Generators.— The four motor generators have been cleaned, and the commutators have been under-cut and stoned.

Fire Protection.— The annual inspection of all fire extinguishers has been made; all used extinguishers have been recharged as required.

Fires.— There were no fires in the tunnel during the past year of 1942.

BOOTH RED SIGNAL.	1939.	1940.	1941.	1942.
Booth Red on	6 times	16 times	6 times	6 times
Total duration	52 minutes	113 minutes	45 minutes	79 minutes

GARAGE SERVICE.

	1939.	1940.	1941.	1942.
Tow jobs	288	189	97	160

VEHICULAR TRAFFIC.

	1939.	1940.	1941.	1942.
Totals	5,936,007	6,309,524	7,362,848	6,770,855
Monthly average	494,667	525,793	614,000	564,238
Weekly average	114,154	121,337	141,700	130,209
Daily average	16,263	17,293	20,180	18,055

Yours respectfully,

THOMAS H. SEXTON,
Division Engineer.

BRIDGE SERVICE.

FINANCIAL STATEMENT, 1942.

Expenditures from Maintenance Appropriation.

Boston bridges	$399,571 37	
Boston and Cambridge bridges	4,872 81	
		$404,444 18

Total Expenditures.

From Maintenance Appropriation	$404,444 18	
From Special Appropriations	281,193 02	
		$685,637 20

Expenditures on Boston Bridges.

Administration:		
Division engineer	$3,000 00	
Engineers	35,575 19	
Clerks	5,200 00	
Blue printers	2,300 00	
Inspectors	983 02	
Foreman	2,500 00	
Veterans' pensions	2,665 84	
Injured employees	73 00	
		$52,297 05
Printing, postage and stationery,	$924 00	
Travelling expenses	62 95	
Telephone	115 00	
Engineers' supplies and instruments	1,080 00	
Office supplies	38 79	
Inspection of typewriters	25 50	
Binding	12 65	
		1,075 84
		$53,372 89

Yard and stockroom:		
Yard	$8,157 45	
Travelling expenses	281 35	
Tools, new and repaired	436 13	
Telephone	147 13	
Holidays and vacations	1,458 68	
Repairs in yard	958 95	
Supplies	1,001 73	
Auto equipment	5,572 56	
		$18,013 98
Stockroom:		
Stock purchased	$17,894 15	
Stock used	17,444 72	
Increase in stock		449 43
		$18,463 41

Tidewater Bridges.

BRIDGES.	Drawtenders' Salaries.	Mechanics' Wages.	Material.	Repair Bills.	Supplies.	Totals.
Broadway	$13,928 73	$1,667 21	$2,267 09	$331 55	$309 28	$18,503 86
Charlestown	27,097 23	5,641 61	2,411 60	483 85	454 31	56,088 60
Chelsea North	19,490 50	1,741 71	1,382 27	3,556 00	792 82	26,963 30
Chelsea South	15,531 87	1,286 20	156 29	640 49	604 81	18,219 66
Chelsea Street	19,926 78	780 31	246 89	384 74	546 18	21,884 90
Congress Street	14,592 70	1,131 62	281 73	96 95	411 64	16,514 64
Dorchester Avenue	15,570 55	622 35	438 07	321 19	279 55	17,231 71
Dover Street	13,090 92	973 91	138 70	195 48	370 03	14,769 04
L Street *	14,142 94	2,111 72	358 41	639 30	223 16	17,475 53
Malden	19,622 65	1,415 21	1,316 21	107 36	564 27	23,025 70
Meridian Street	18,240 41	2,330 77	408 21	1,636 36	653 26	23,269 01
Northern Avenue	20,692 47	1,268 17	337 15	774 38	2,590 24	25,662 41
Summer Street	18,859 63	2,282 56	691 76	1,768 87	403 52	24,006 34
Warren	15,763 57	6,602 68	4,731 80	703 97	332 06	28,134 08
Totals	$246,550 95	$29,856 03	$15,166 18	$11,640 49	$8,535 13	$311,748 78

* Now Summer Street, over Reserved Channel.

Repairs on Inland Bridges.

BRIDGES.	Labor and Material.
Arlington Street	$14 00
B Street (stairs)	408 45
Babson Street	36 17
Blakemore Street	277 22
Bennington Street	105 87
Boston Street	13 88
Boylston Street, over Boston & Albany Railroad	226 61
Braddock Park-Follen Street (foot)	33 36
Broadway, over Boston & Albany Railroad	112 23
Broadway, over Foundry Street	9 00
Brookline Avenue	14 00
Cambridge, over Boston & Maine Railroad	99 62
Camden Street-Gainsborough Street (foot)	35 67
Central Avenue	31 36
Charles Street (underpass)	7 00
Clarendon Street	94 60
Cummins Highway	275 77
Dana Avenue	507 57
Dartmouth Street (rent)	300 00
Durham Street (foot)	65 07
Fairmount Avenue	900 26
Freeport	1,206 86
Granite Avenue	723 68
Glenwood Avenue, over New York, New Haven & Hartford Railroad	712 52
Hyde Park Avenue, over Mother Brook	98 01
Hyde Park Avenue, over Stony Brook	62 17
Irvington Street-Yarmouth Street (foot)	33 02
Jones Avenue (foot)	64 07
Longfellow	655 10
Metropolitan Avenue	268 15
Milton Street	211 92
Milton Lower Mills	200 60
Mystic Avenue	497 62
Parsons Street Footway	370 35
Perkins Street (foot)	266 69
Carried forward	$8,938 47

Repairs on Inland Bridges.—Concluded..

BRIDGES.	Labor and Material.
Brought forward	$8,938 47
Redfield Street	16 26
Reservoir Road	178 11
River Street	46 74
Saratoga Street	12 30
Sprague Street	893 86
Southampton Street, over New York, New Haven & Hartford Railroad	130 80
Summer Street, over B Street	692 06
Toll Gate Way (foot)	32 21
Walworth Street	79 83
Webster Street	43 50
West Fourth Street	2,636 73
Winthrop	127 81
Western Avenue	7 00
Cleaning bridges, sanding	540 96
Snow removal and sanding	903 67
Other services	706 01
Total	$15,986 32

SUMMARY.

Administration	$53,372 89
Yard and stockroom	18,463 41
Tidewater bridges	311,748 75
Inland bridges	15,986 32
	$399,571 37
Boston and Cambridge bridges	4,872 81
Total	$404,444 18

BRIDGES, REPAIRS, ETC.

Broadway Bridge:		
Electrical repairs		$16 70
Charlestown Bridge:		
Machinery repairs	$213 14	
Material, lumber	1,681 20	
		1,894 34
Chelsea North Bridge:		
Machinery repairs	$984 01	
Advertising	25 00	
		1,009 01
Chelsea South Bridge:		
Blacksmith work	$46 05	
Electrical repairs	7 40	
		53 45
Chelsea Street Bridge:		
Electrical repairs		144 18
Clarendon Street Bridge:		
Repair sidewalk		539 40
Congress Street Bridge:		
Machinery repairs		30 43
Dorchester Avenue Bridge:		
Machinery repairs	$50 68	
Remove walens	269 88	
		320 56
Gove Street Bridge (foot):		
Ironwork		44 08
Malden Bridge:		
Ironwork		17 63
Meridian Street Bridge:		
Electrical repairs		33 40
Northern Avenue Bridge:		
Machinery repairs		246 99
Perkins Street Bridge (foot):		
Repair fence		58 50
Summer Street Bridge, over Fort Point Channel:		
Machinery repairs	$770 68	
Electrical repairs	37 60	
Plumbing repairs	19 37	
New wire cable	109 56	
		937 21
Carried forward		$5,345 88

Brought forward		$5,345 88
Summer Street Bridge, over Reserved Channel:		
W. H. Ellis & Son Company	$5,697 64	
Machinery repairs	80 45	
Plumbing repairs	95 08	
Use of towboat for power	275 00	
		6,148 17
Warren Bridge:		
Machinery repairs	$194 56	
Electrical repairs	6 60	
Material, lumber	1,800 00	
		2,001 16
Yard:		
Repairs, blacksmith work		156 51
		$13,651 72

BRIDGES — CONSTRUCTION OF.

Allston Bridge:		
Martin J. Kelly		$370 59
Boston Street Bridge:		
Martin J. Kelly		146 33
Boylston Street Bridge:		
Material		8 10
Broadway Bridge:		
Install submarine cable		118 86
Broadway Bridge, over New York Central Railroad:		
Martin J. Kelly	$478 25	
Material	16 20	
Advertising	25 50	
Engineer's supplies	24 04	
Engineering	1,047 12	
		1,591 11
Byron Street Bridge:		
Martin J. Kelly		65 67
Charlestown Bridge:		
Baker & Co.	$40,601 87	
Material	11,536 31	
Test concrete cylinders	6 00	
Supplies and miscellaneous	17 51	
Engineering	1,789 35	
		53,951 04
Central Avenue Bridge:		
Martin J. Kelly	$145 02	
Material, paint	860 00	
		1,005 02
Chelsea North Bridge:		
Material, nails		53 65
Chelsea South Bridge:		
Advertising		12 75
Cummins Highway:		
Martin J. Kelly		69 23
Dorchester Avenue Bridge:		
Material	$41 50	
Diver services	120 00	
		161 50
Dorchester Avenue Bridge, over New York, New Haven & Hartford Railroad:		
Martin J. Kelly		271 01
Dover Street Bridge:		
Martin J. Kelly	$3,486 69	
Material, paint	1,720 00	
Lumber	1,336 52	
Engineering	44 11	
		6,587 32
Carried forward		$64,412 18

Brought forward		$64,412 18
Follen Street Bridge:		
Material, nails		8 10
Freeport Street Bridge:		
Material		41 50
Gainsborough Street Bridge:		
Material, nails		4 05
Harrison Avenue Bridge:		
Martin J. Kelly		83 47
Irvington Street Bridge:		
Material, nails		4 05
Jones Avenue Bridge:		
Martin J. Kelly	$1,361 90	
Material, paint	860 00	
		2,221 90
Longfellow Bridge:		
J. A. Singarella Company	$22,976 61	
Tools	252 68	
Miscellaneous	6 92	
Engineering	1,113 02	
		24,349 23
Malden Bridge:		
A. D. Daddario	$11,651 80	
Material	5,106 10	
Advertising	25 50	
Test concrete cylinders	1 00	
Miscellaneous	24 04	
Engineering	2,694 38	
		19,502 82
Meridian Street Bridge:		
Marinucci Brothers Company	$37,509 89	
Material	41 50	
Miscellaneous	3 81	
Engineering	490 92	
		38,046 12
Milton Street Bridge:		
Martin J. Kelly		152 20
Milton Lower Mills Bridge:		
Martin J. Kelly		159 22
Northern Avenue Bridge:		
Martin J. Kelly		174 43
Perkins Street Bridge:		
Material, nails		4 05
Redfield Street Bridge:		
Martin J. Kelly		363 42
Toll Gate Way Bridge:		
Martin J. Kelly	$8,026 45	
Material, paint	860 00	
Engineering	44 11	
		8,930 56
Southampton Street Bridge:		
Martin J. Kelly		447 48
Carried forward		$158,904 78

Brought forward		$158,904 78
Summer Street Bridge, over Fort Point Channel:		
Material	$53 65	
Advertising	40 00	
		93 65
Summer Street Bridge, over Reserved Channel:		
Marinucci Brothers Company	$42,783 47	
Material	833 75	
Protection shields	844 55	
Advertising	32 50	
Miscellaneous	24 04	
Engineering	1,748 38	
		46,266 69
Warren Bridge:		
Berke-Moore Company	$16,164 35	
Material	2,046 70	
		18,211 05
West Fourth Street Bridge:		
Martin J. Kelly	$13,582 21	
Material	2,497 72	
Tools	22 80	
Engineering	441 10	
		16,543 83
		$240,020 00

PUBLIC WAYS — CONSTRUCTION OF.

Parsons Street Footway:		
V. J. Grande	$14,901 41	
New York Central Railroad	8,986 46	
Material, lumber	610 75	
Test concrete cylinders	30 00	
Engineering	613 70	
		$25,142 32

WORK RELIEF PROGRAM.

West River Street Bridge:		
John F. Shea Company, Inc. . . .	$2,366 48	
Advertising	12 50	
		$2,378 98

SUMMARY.

Expenditures from Special Appropriations, 1942.

	Balances from 1941.	Total Credits, Including Balances Carried Over and Transfers.	Expended During Year 1942.	Unexpended Balances December 31, 1942.
Bridges, repairs, etc.....	$1,181 04	$26,181 04	$13,651 72	$12,529 32
Bridges, construction of....	569,662 59	569,662 59	* 240,020 00	329,642 59
Public ways, construction of, ...	.....	.....	* 25,142 32	.....
Work Relief Program.....	.....	.....	2,378 98	.....
Totals.....	$570,843 63	$595,843 63	$281,193 02	$342,171 91

* See also Highway Division.

Draw Openings, 1942.

Bridges.	Steamers.			Sailing Vessels.			Tugs.			Barges.			All Others.			Total Number of Vessels.			Total Number of Cargoes.	Total Number of Openings.
	Day.	Night.	Total.	Day.	Night.	Total.	Day.	Night.	Total.	Day.	Night.	Total.	Day.	Night.	Total.	Day.	Night.	Total.		
Broadway	2	.....	2	19	5	24	527	18	545	45	8	53	420	2	422	1,013	33	1,046	250	583
Charlestown	.....	.....	.....	20	.....	20	369	107	476	177	102	279	159	24	183	725	233	958	210	185
Chelsea North	813	222	1,035	1	.....	1	7,735	1,978	9,713	2,005	1,016	3,021	1,263	679	1,942	11,817	3,895	15,712	1,658	6,331
Chelsea South	32	75	107	.....	.....	.....	885	598	1,483	122	32	154	306	276	582	1,345	981	2,326	433	1,304
Chelsea Street	162	175	337	1	1	2	1,076	622	1,698	637	446	1,083	254	46	300	2,130	1,290	3,420	680	2,152
Congress Street	13	3	16	11	2	13	770	22	792	144	5	149	547	9	556	1,485	41	1,526	339	887
Dorchester Avenue	.....	.....	.....	14	.....	14	533	12	545	46	5	51	507	2	509	1,100	19	1,119	239	643
Dover Street	.....	.....	.....	27	3	30	523	18	541	47	7	54	407	1	408	1,004	29	1,033	225	511
L Street *	.....	.....	.....	51	3	54	319	33	352	228	21	249	411	43	454	1,009	100	1,109	73	761
Malden	32	18	50	7	1	8	464	101	565	222	85	307	157	24	181	882	229	1,111	224	674
Meridian	641	258	899	22	.....	22	3,967	1,181	5,148	1,992	731	2,723	5,607	917	6,524	12,229	3,087	15,316	1,699	7,228
Northern Avenue	9	7	16	50	5	55	1,698	280	1,978	114	17	131	1,460	209	1,669	3,331	518	3,849	602	2,144
Summer Street	7	5	12	17	1	18	701	68	769	105	14	119	502	13	515	1,332	101	1,433	294	811
Warren	.....	.....	.....	.....	.....	.....	393	112	505	233	108	341	454	61	515	1,080	281	1,361	260	905
Totals	1,711	763	2,474	240	21	261	19,960	5,150	25,110	6,117	2,597	8,714	12,454	2,306	14,760	30,482	10,837	51,319	7,186	25,119

* Now Summer Street, over Reserved Channel.

GRANITE AVENUE BRIDGE.*

Drawtenders' salaries	$3,160 22
Material	1 65
Repairs	7 00
Supplies	91 63
	$3,260 50

* One half paid by County of Suffolk and one half by town of Milton.

	Sailing Vessels.			All Others.			Total Number of Vessels.			Total Number of Cargoes.	Total Number of Openings.
	Day.	Night	Total.	Day.	Night	Total.	Day.	Night	Total.		
Openings	7	7	14	137	11	148	144	18	162		165

FERRY SERVICE.

Financial Statement for the Year Ending December 31, 1942.

Total cash receipts during the year . . .	$16,771 14
Cash in hands of tollmen at beginning of year,	90 00
	$16,867 14
Cash paid over to City Collector . . .	$16,771 14
Cash in hands of tollmen December 31, 1942 .	90 00
	$16.867 14

Breakdown of Toll Receipts.

From foot passengers . . .	$8,860 06	
From vehicles	7,910 85	
		$16,770 91

	From Foot Passengers.	From Vehicles.	Totals.
Boston side	$4,568 55	$4,075 70	$8,644 25
East Boston side	4,291 51	3,835 15	8,126 66
Totals	$8,860 06	$7,910 85	$16,770 91

Travel on the South Ferry from January 1, 1942, to December 31, 1942, Inclusive.

Foot passengers at 1 cent 886,006

Handcart, or wheelbarrow and man	5 cents	16,511
Horse and rider	5 cents	
Horse and cattle, each with attendant	5 cents	
One or two horse vehicle with driver	5 cents	
Motorcycle with driver	5 cents	
Trailer	10 cents	46,866
Three or four horse vehicle with driver	10 cents	
Passenger automobile with driver and one passenger	10 cents	
Passenger automobile with driver and more than one passenger	15 cents	13,746
Motor truck, six tons or less, with driver	15 cents	
Motor truck, six tons or over with driver	20 cents	1,684
Auto bus with driver	20 cents	
Auto bus with driver and passengers	30 cents	000
Free vehicles		269

SUMNER TRAFFIC TUNNEL.

1. RECEIPTS.

Financial Statement for the Year ending December 31, 1942.

Cash in hands of cashier at the beginning of the year		$6,689 50
Receipts:		
Tolls	$989,613 95	
Sale of junk	5 64	
Total receipts		989,619 59
		$996,309 09
Cash paid over to City Collector		991,160 64
Cash on hand December 31, 1942		$5,148 45

2. APPROPRIATIONS AND EXPENDITURES.

Received from annual appropriation	$266,397 00	
Received for E. C. A. requirements	7,000 00	
		$273,397 00
Transferred to City Treasurer		20,346 41
Total expenditures for year		$253,050 59

3. RESULT OF OPERATION FOR THE YEAR.

Receipts		$991,160 64
Expenditures:		
Maintenance and operation	$253,050 59	
Sinking Funds	271,577 00	
Interest	830,487 50	
Refunded tolls	118 95	
		1,355,234 04
Deficit for year		$364,073 40

SUMNER TRAFFIC TUNNEL.

ANNUAL TRAFFIC BY CLASSIFICATION FOR YEAR 1942.

Classification and Rate.

	No. 1. 15 Cents, Truck.	No. 2. 15 Cents, Pleasure Car.	No. 3. 15 Cents, Motor-cycle.	No. 4. 25 Cents, Truck.	No. 5. 20 Cents, Private Car and Trailer.	No. 6. 25 Cents, Truck.	No. 7. 20 Cents, Tractor and Trailer.	No. 8. $1.00, Truck.	No. 9. 25 Cents, Buses.	Free Vehicles.	Total.
January	27,625	461,151	109	2,151	108	1,143	8	24	15,704	20,369	528,392
February	21,921	439,299	118	1,737	115	1,315	5	31	14,444	20,950	499,935
March	25,378	510,064	154	1,869	155	1,720	6	9	16,300	24,716	580,371
April	26,828	535,434	277	1,937	197	1,504	9	17	15,834	27,628	609,665
May	26,235	554,810	398	2,036	263	552	8	20	16,452	27,377	628,151
June	26,326	577,624	390	1,955	270	448	12	42	16,798	28,155	652,020
July	26,980	561,115	401	2,010	280	433	17	33	17,708	33,079	642,056
August	28,746	494,185	443	1,826	240	415	6	25	18,254	30,777	574,917
September	26,528	464,910	332	1,735	310	370	18	51	16,999	31,967	543,220
October	28,976	455,322	235	2,088	261	405	5	48	17,860	31,587	536,787
November	22,156	437,120	190	1,875	232	359	0	27	16,412	32,279	510,650
December	21,488	390,285	137	2,406	155	541	3	8	16,766	32,892	464,691
Totals	309,187	5,881,319	3,184	23,625	2,586	9,205	97	335	199,541	341,776	6,770,855

Free Vehicles include City-owned cars, Red Cross, Army, Navy, State cars and ambulances.

SUMNER TRAFFIC TUNNEL.

Comparison of Receipts, Expenditures, Interest and Sinking Fund Requirements, 1938 to 1942, Inclusive.

	1938.	1939.	1940.	1941.	1942.
Expenditures	$218,527 98	$221,276 68	$229,635 64	$232,802 62	* $253,169 54
Interest Requirements	851,452 50	837,773 75	832,123 75	831,400 00	830,487 50
Sinking Fund Requirements	204,268 00	204,352 00	204,131 00	204,981 00	271,577 00
Total expenditures	$1,274,248 48	$1,263,402 43	$1,265,890 39	$1,269,183 61	$1,355,234 04
Receipts	836,379 57	898,356 82	960,365 16	1,110,428 47	991,160 64
Deficits	$437,868 91	$365,045 61	$305,525 23	$158,755 15	$364,073 40

* Includes $118.95 for refunded tolls.

APPENDIX B.

REPORT OF THE DIVISION ENGINEER OF THE HIGHWAY DIVISION.

BOSTON, January 2, 1943.

To the Commissioner of Public Works.

DEAR SIR,— I submit the following report of the operations and expenditures of the Highway Division for the year ending December 31, 1942:

Maintenance.

Appropriation for 1942		$894,786 00
Transfers from this appropriation		12,636 46
Total credits for 1942		$882,149 54
Amount expended		874,640 25
Balance unexpended		$7,509 29

Work Relief Program.

Appropriation for 1942	$200,000 00	
Balance from 1941	10,331 11	
Total appropriation for 1942		$210,331 11
Transfers to appropriation	$68,185 55	
Transfers from appropriation	20,000 00	
Net transfers		48,185 55
Total credits for 1942		$258,516 66
Total amount expended in 1942		235,822 68
Balance unexpended		$22,693 98

Civilian Precautionary Assistance (Item I).

Appropriation for 1942	$10,000 00
Transfers to appropriation	3,100 00
Total credits for 1942	$13,100 00
Amount expended for 1942	13,027 06
Balance unexpended	$72 94

As of January 1, 1942, the regular employees numbered 467, and on December 31, 1942, our regular personnel amounted to 484, including 20 employees in the military service.

The amount of money taken in through the Permit Office of the Paving Service was $9,937.17. Of this amount $6,883.67 was deposited with the City Collector, and $3,053.50 was billed to public service corporations. There are now on file in the Permit Office 1,580 bonds in the amounts of one, three, four and twenty thousand dollars covering the city against claims for damages, etc., through the use of permits.

The regular force of the Paving Service was employed as usual in the maintenance of all public streets, resurfacing and patching macadam pavements, patching all permanent pavements, such as asphalt, granite blocks, etc., and taking care of all gravel, brick and artificial stone sidewalks.

Work was continued this year by the Federal Works Progress forces in the removal of abandoned car tracks. There were 2,034 long tons of abandoned car tracks removed and sold by the city amounting to $28,282, and shipped to the steel mills.

This division advertised and awarded twenty-four streets to be permanently constructed with sidewalks, edgestones and roadway that were accepted by the Board of Street Commissioners with an assessment to be made on the abutting owners. Under this arrangement nineteen of the twenty-four streets were constructed. Also this division has constructed twenty-seven new artificial stone sidewalks in the place of brick and gravel sidewalks.

The following is some of the more important streets and work performed this year: Hillside street, Roxbury, was advertised for reconstruction and work was started but not completed. The resurfacing of the Summer Street Bridge was completed this year. Harrison avenue, from Beach street to Broadway, was resurfaced. Newbury street, from Arlington street to Clarendon street, the sidewalks were moved back 4 feet, thereby reducing the width of the sidewalks and increasing the roadway area. This has shown a marked improvement in the movement of traffic.

Lighting Service.

The Lighting Service Appropriation of the Highway Division called for $937,783. A transfer of $16,400.26 was received from the Public Welfare Department, making a grand total of $954,183.26. Out of this $952,659.28 was expended, leaving an unexpended balance of $1,523.98.

Mazda lamps of 1,000 candle power were installed as follows: Milk street (1), Northampton street (5), Parmenter street (1), City Proper; Centre street (5), West Roxbury.

Mazda lamps of 600 candle power were installed as follows: Albany street (1), City Proper; Norfolk avenue (1), Roxbury; Dorchester avenue, Traffic Island (2), South Boston.

Mazda lamps of 80 candle power were installed as follows: Parsons street underpass (4), Brighton; Bartlett place (1), City Proper; Barna road (2), Galty avenue (1), Mercier avenue (2), Range road (2), Dorchester; Bateman street (2), Glenwood avenue footbridge (5), Grassmere road (3), Lewis street (3), McDonald street (2), Roanoke road (1), Safford street (1), Hyde Park; Adams place (1), Shetland street 1, Roxbury; Bourne road (2), Chellman street (1), Craft street (1), Howitt road (1), Sunset Hill path (2), Woodbourne road (3), West Roxbury.

Mazda fire alarm lamps were installed as follows: Maverick square (1), Sumner street (1), East Boston; Amory street (1), Roxbury; East Ninth street (1), South Boston.

Petitions and requests for new lamps received from citizens and officials, also complaints relative to the Lighting Service have been investigated and attended to.

Owing to war conditions there was no prescribed underground district for the year of 1942.

Respectfully,

William T. Morrissey,
Division Engineer.

Highway Division — Paving Service.

Work Done by Contract, 1942.

Type of Work.	
Earth excavation	15,835 cubic yards.
Rock excavation	1,081 cubic yards.
Filling furnished	6,370 tons.
Old concrete base removed	1,948 square yards.
Edgestone set	18,702 linear feet.
Edgestone reset	8,024 linear feet.
Granite block pavement	514 square yards.
Concrete base	9,300 square yards.
Bituminous macadam base	268 square yards.
Bituminous concrete pavement (tar binder)	31,458 square yards.
Sheet asphalt pavement	6,725 square yards.
Cement bound macadam pavement	5,587 square yards.
Concrete pavement	8,908 square yards.
Artificial stone sidewalks and driveways	280,886 square feet.
Artificial stone foundation	2,370 cubic yards.
Concrete walls	443 cubic yards.
Covers reset	321
Loam spaces	213 square yards.
Cedar post fence	66 linear feet.
Chain link fence	499 linear feet.
Pipe rail fence	1,743 linear feet.
Reinforced steel	14,000 pounds.

PUBLIC WORKS DEPARTMENT — HIGHWAY DIVISION.

Report of Work Done by Department Forces for 1942.

Brick sidewalks, laid and relaid	14,859¾ square yards.
Gravel sidewalks, relaid	44,843 square yards.
Granolithic sidewalks, laid (new)	20,835 square feet.
Granolithic sidewalks, relaid (old)	101,996½ square feet.
Bituminous concrete sidewalks, laid and relaid	22,683 square yards.
Block gutters, laid	769 square yards.
Block paving, laid (roadway) granite	2,882 square yards.
Edgestone set (new)	873½ linear feet.
Edgestone reset (old)	7,087½ linear feet.
Macadam roadway, patched	85,714 square yards.
Macadam roadway, resurfaced	
Street cleaning	28,983 cubic yards.
Snow removal	76,884 cubic yards.

Objects of Expenditures from Maintenance Appropriation, Classified by Districts, from January 1, 1942, to December 31, 1942.

Districts.	Macadam Repairs.	Paved Street Repairs.	Removal of Snow.	Street Cleaning.	Edgestone, Sidewalk and Gutter Repairs.	Street Work Resurfacing.	Miscellaneous.	Total.
South Boston and Dorchester North	$5,470 95	$363 24	$4,804 73	$4,130 95	$11,856 07	.....	.....	$26,625 94
East Boston	4,261 48	.....	2,489 57	1,095 51	7,138 29	.....	.....	14,984 85
Charlestown	1,170 55	1,212 50	2,526 15	1,289 26	7,737 82	.....	.....	13,936 28
Brighton	2,652 72	.....	4,384 34	22,610 42	908 46	.....	.....	30,555 94
West Roxbury	8,979 50	64 58	9,027 60	28,905 84	4,801 08	$1,557 46	.....	53,336 06
Dorchester	4,235 69	80 70	6,206 26	2,288 66	7,353 07	.....	.....	20,164 38
Roxbury South and Jamaica Plain	12,869 66	6 36	4,324 48	400 00	10,136 66	.....	.....	27,737 16
City Proper	15,209 32	715 03	7,970 10	2,605 03	14,609 91	926 49	.....	42,035 88
Ashmont	6,196 82	39 75	2,423 19	3,589 87	3,983 84	.....	.....	16,233 47
Hyde Park	22,006 20	30 53	4,587 01	11,157 63	728 01	.....	.....	38,509 38
							$590,520 91	590,520 91
Totals	$83,052 89	$2,512 69	$48,743 43	$78,073 17	$69,253 21	$2,483 95	$590,520 91	$874,640 25

* Miscellaneous includes: Street signs, $16,558.33; granolithic sidewalk repairs, $76,971.92; F-7, $6,949; F-11, $431.36; fence repairs, $6,626.84; sanding icy streets, $9,833.19; miscellaneous, $473,150.27.

Special Appropriations: Public Ways, Construction of (non-revenue), $287,281.77; Public Ways, Construction of (revenue), $120,279.01; Snow Removal, $233,360.08; Reconstruction of Streets, $1,810.35; Sidewalks, Construction and Reconstruction of, $38,113.95; Work Relief Program, $235,822.68; Civ. Pre. Assist. $13,027.06.

Total, Maintenance and Specials, $1,804,335.15. (E. C. A., $38,046.45.)

Table Showing Length and Area of Paving on Accepted Streets, Corrected to January 1, 1943.

	Length in Miles.										Area in Square Yards.									
	Sheet Asphalt.	Asphalt Concrete.	Granite Block.	Wood Block.	Plank on Bridges.	Brick.	Concrete.	Macadam.	Gravel.	Not Graded.	Totals.	Sheet Asphalt.	Asphalt Concrete.	Granite Block.	Wood Block.	Plank on Bridges.	Brick.	Concrete.	Macadam.	Gravel.	Not Graded.	Totals.
Year 1941 Report	* 139.75	† 200.80	‡ 74.43	0.66	0.71	0.97	§ 27.51	‖ 247.58	15.35	1.98	709.74	* 2,692,149	† 3,927,145	‡ 1,197,816	14,402	15,923	19,280	§ 531,376	‖ 4,051,774	240,995	58,994	13,549,854
Per Cent	19.69	28.29	10.49	0.09	0.10	0.14	3.88	34.88	2.16	0.28	100.00	19.87	28.98	14.74	0.11	0.12	0.14	3.92	29.90	1.78	0.44	100.00
January 1, 1943.																						
City Proper	32.76	28.34	25.97	0.27	0.13	0.40	3.14	5.19	0.22	.....	96.42	664,200	646,596	586,879	3,748	3,750	6,685	115,082	82,887	1,563	.....	2,111,390
Charlestown	0.65	3.81	9 96	0.08	0.07	.....	1.07	7.01	0.01	0.01	22.67	9,614	60,201	240,849	2,011	1,999	.....	22,768	100,566	80	41	438,129
East Boston	3.81	10.45	5.15	0.01	0.05	0.04	1.08	14.91	0.74	0.04	36.28	85,272	212,509	123,485	325	777	771	35,891	324,065	15,002	865	798,962
South Boston	8.12	9.87	10.32	0.04	0.19	0.12	0.77	14.07	0.17	0.97	44.64	150,533	199,594	285,816	1,255	4,797	2,993	21,727	246,231	2,686	25,029	940,661
Roxbury	24.69	20.81	11.52	0.10	.....	0.14	6.76	29.14	1.01	.....	94.17	439,236	411,502	294,101	2,689	.....	7,424	116,890	429,827	13,439	61	1,715,169
West Roxbury	24.79	42.36	3.42	0.01	0.07	.....	5.35	63.73	1.74	0.32	141.79	452,926	782,726	156,109	210	1,380	.....	76,121	1,019,810	29,187	10,351	2,528,820
Dorchester	32.07	46.61	6.86	0.06	0.07	0.27	6.49	72.92	3.19	0.07	168 61	588,666	849,033	195,523	1,669	1,242	5,479	117,152	1,163,572	50,973	2,341	2,975,650
Brighton	11.41	31.65	0.63	.....	0.08	.....	2.30	16.26	1.07	.....	63.40	248,374	604,881	73,709	958	1,231	.....	50,648	273,200	17,422	1,499	1,271,922
Hyde Park	0.65	8.82	0.05	0.09	0.05	.....	0.94	23.52	7.06	0.24	41.42	15,347	194,624	8,652	1,488	747	.....	17,373	399,731	108,368	7,965	754,295
Total	138.95	202.72	73.88	0.66	0.71	0.97	27.90	246.75	15.21	1.65	709.40	2,654,168	3,961,666	1,965,123	14,353	15,923	23,352	573,652	4,039,889	238,720	48,152	13,534,998
Per Cent	19.59	28.58	10.42	0.09	0.10	0.14	3.93	34.78	2.14	0.23	100.00	19.61	29.27	14.52	0.11	0.12	0.17	4.24	29.85	1.76	0.35	100.00

Total Public Streets 709.40 Miles.

Note.—In the above table the city is subdivided substantially on the boundary lines between the districts as they existed when annexed to Boston. Territory annexed from Brookline is included in City Proper.

* Of this amount 0.10 mile or 834 square yards is Biturock; and 0.03 mile or 537 square yards is Kyrock; and 0.00 mile or 310 square yards is Unionite.

† Of this amount 0.02 mile or 667 square yards is Amiesite; and 86.18 miles or 1,581,137 square yards is asphalt concrete; and 103.47 miles or 2,123,004 square yards is bitulithic; and 0.02 mile or 4,973 square yards is Colprovin; and 0.06 mile or 942 square yards is Filbertine; and 0.00 mile or 4,000 square yards is Hepburnite; and 0.00 mile or 3,903 square yards is Laykold; and 0.00 mile or 4,167 square yards is Macasphalt; and 0.21 mile or 5,200 square yards is Simasco; and 11.16 miles or 203,828 square yards is Topeka; and 0.00 mile or 4,153 square yards is Warcolite; and 0.18 mile or 3,474 square yards is Carey Elastite asphalt plank; and 0.11 mile or 2,507 square yards is Flintkote asphalt plank; and 0.11 mile or 1,234 square yards is Johns-Manville asphalt plank.

‡ Of this amount 0.02 mile or 185 square yards is cobble; and 49.40 miles or 1,503,127 square yards is granite block paving on concrete base.

§ Of this amount 0.06 mile or 924 square yards is Blome granitoid concrete block.

‖ Of this amount 199.04 miles or 3,301,124 square yards is bituminous macadam.

6.07 miles or 35,444 square yards public alleys included in this table; 7.41 miles or 332,540 square yards public streets in charge of Park Department included in this table; 7.01 miles or 236,673 square yards public streets in charge of Commonwealth of Massachusetts included in this table. In addition to this table there are 1.76 miles or 8,876 square yards of accepted footways.

PERMIT OFFICE ACTIVITIES, 1942.

Under classes 1 and 2 of the schedule of permit fees there were issued for openings in the public ways as follows:

	Number of Permits.	
City departments	1,503	
Public service corporations	2,488	
Emergency for same	1,580	
Miscellaneous	380	
Total		5,951

Permits for other than street openings were as follows:

Painting and minor repairs	1,690	
Placing and removing signs on buildings	270	
Special permits	245	
Awnings	92	
Moving buildings in street	2	
Cleaning snow from roofs	2	
Raising and lowering safes and machinery	38	
Total		2,339
Grand total		8,290

The fees received from these permits amount to $9,937.17. Of this amount $6,883.67 was deposited with the City Collector, and $3,053.50 was billed to public service corporations.

BONDS.

There are now on file in this office 1,580 bonds in amounts of one, three, four and twenty thousand dollars, covering the city against claims for damages, etc., through the use of permits.

APPENDIX C.

REPORT OF THE DIVISION ENGINEER OF THE SANITARY DIVISION.

BOSTON, January 2, 1943.

MR. GEORGE G. HYLAND,
Commissioner of Public Works.

DEAR SIR,— I submit herewith a statement of the activities and expenditures of the Sanitary Division for the year ending December 31, 1942:

Maintenance expenditures			$2,260,404 97
Motor deficiency			26,448 59
Total cost approach			$2,286,853 56
I. Waste collection and disposal			$1,518,636 75
(*a*) By contract (Table II)	$886,608 80		
(*b*) By day labor (Table III)	632,027 95		
II. Street cleaning (Table V)			689,186 03
III. Not directly chargeable to 1942 operation			79,030 78
(*a*) For other services	$12,124 07		
(*b*) Pensions	10,079 34		
(*c*) Injured roll	3,344 55		
(*d*) W. P. A.	116 62		
(*e*) Unused stock	12,711 14		
(*f*) Preventive street cleaning	25,933 49		
(*g*) Salvage, including tin	11,106 95		
(*h*) Air raid precaution	621 04		
(*i*) Gardening	2,993 58		

Personnel changes in permanent force:		
Total personnel January 1, 1942		620
Transfers from other departments and divisions		10
New appointments		195
Reinstatements		6
Deaths	11	831
Resignations	31	
Retirements	18	
Transfers out	9	
	—	69
Total personnel January 1, 1943		762

Comparison of 1941 Costs.— The year 1942 showed an increase in contract prices over 1941 amounting to $171,570. The only district showing a decrease was the Back Bay district, in which there was a decrease of $240 a month. A new district, called Stuart, was taken over from day labor, and the charge for this district was $2,380 a month. In 1941 the work in the Dudley district was performed by contractor for $2,249 per month, but in 1942 the Mission Hill area was added to this district, and the cost of the work in the new district was $4,700 per month.

Welfare.— 1942 saw the end of welfare assistance, there being only about ten men a day at the end of June, and none by the end of September.

W. P. A.— The W. P. A. project which was in progress, making a study of street and alley cleaning, closed officially March 5.

Salvage.— In February the Boston Salvage Committee was organized, with Commissioner of Public Works George G. Hyland as chairman. Meetings were held with representatives of the junkmen, and the salvage program was built around them, with emphasis on the salvaging of waste paper. Two hundred thousand circulars of information and instruction to the householders were distributed to all residences. There were also distributed 200,000 window cards to be placed in the windows to call a junkman, and established prices for paper, old metal and rags were published. Billboards, store-window displays, trolley-car posters, and radio talks were extensively used to further the project. Effective support was also given by the newspapers. In May the price of paper had dropped because of the enormous amount collected, and by August paper was no longer worth collecting because the market was glutted. Throughout all this period we had the enthusiastic support of the entire population.

Tin Can Salvage Collection.— The collection of tin cans for salvage was organized so that city trucks collected properly prepared tin cans, placed on the sidewalks in front of the houses. Collections were made by public Works Department employees during one week in each month. Anticipatory experiments had been made with a view to getting the greatest density. Government circulars were distributed, store-window displays were installed, and radio and newspaper publicity was obtained. Women canvassers were organized and fur-

nished with ward maps, voting lists and pledge cards for house to house solicitation.

Two freight terminals were constructed with ramps, chutes and spur track for direct loading into railroad cars. Although the Office of Defense Transportation had lowered the minimum carload weight on tin cans to fifteen gross tons, the size of the cars furnished by the railroad were, with few exceptions, too small to get this weight into the cars, so that the city had to pay excess freight charges in almost every case.

The October collection of tin cans was omitted because of the Scrap Metal Drive. The amounts of tin cans collected and the revenue received were as follows:

	Pounds.	Revenue.
August	276,360	$751 39
September	366,200	1,119 86
November	569,400	1,592 43
December	461,600	866 15
Totals	1,700,560	$4,329 83

The receipts were net after freight, but did not include cost of ramps, etc., or any charge for collection by city vehicles.

Comparison with other United States cities showed that Boston stood first in the amount per capita collected, and second only to New York in the total tonnage.

Scrap Metal Drive.— The Scrap Metal Drive was conducted by the Boston Salvage Committee, enlisting the support of the women canvassers, and prizes were awarded to the public and parochial schools collecting the largest amount per pupil.

Bins were placed in two hundred locations throughout the city. City trucks removed the scrap collected to junk dealers selected by the War Production Board.

Fourteen hundred and ninety-six (1,496) gross tons were sold for $8,513.53, and approximately the same amount was stored at Mile Road dump for later sales.

Civilian Defense.— All employees were photographed, and identification cards were issued, giving emergency assignments. Waterfront employees were given special passes by the United States Coast Guard.

All oil-heating apparatus were converted to coal.

Respectfully submitted,

Adolph J. Post,
Division Engineer.

TABLE I.

Amount Expended for the Collection and Disposal of Ashes and Garbage by Districts, 1942.

Number.	Districts.	Population.	Ashes and Rubbish.		Garbage.		Total Cost.	Per Capita.
			Cost.	Per Capita.	Cost.	Per Capita.		
1.	South Boston	58,889	$84,760 24	$1 439	$13,726 91	$0 233	$98,487 15	$1 672
2.	East Boston	59,663	30,782 56	0 516	19,182 61	0 321	49,965 17	0 837
3.	Charlestown	25,587	51,588 16	2 016	—	—	51,588 16	2 016
4.	Brighton	62,309	34,755 86	0 557	24,160 74	0 387	58,916 60	0 945
5.	West Roxbury	87,606	58,093 66	0 663	30,620 74	0 349	88,714 40	1 012
6.	Dorchester	193,892	146,566 00	0 756	98,225 89	0 506	244,791 89	1.262
7.	Roxbury	31,786	149,989 41	4 718	47,709 64	1 501	197,699 05	6 219
7A.	Elm Hill	24,083	16,159 73	0 670	10,558 25	0 438	26,717 98	1 109
7B.	Roxbury (contract) *	62,060	88,677 37	1 429	19,369 62	0 312	108,046 99	1 741
9.	South End	46,781	214,760 04	4 590	—	—	214,760 04	4 590
9A.	Back Bay	22,648	56,783 45	2 507	—	—	56,783 45	2 507
9B.	Stuart	23,768	80,753 61	3 061	—	—	80,753 61	3 061
10.	North and West Ends	46,922	205,724 40	4 383	13,844 46	0 295	219,568 86	4 677
11.	Hyde Park	24,742	11,905 52	0 481	9,937 88	0 401	21,843 40	0 802
	Totals	770,736	$1,231,300 01	$1 597	$287,336 74	$0 3728	$1,518,636 75	$1 970

* Called "Dudley" in 1941.

TABLE II.

Cost of Collection and Disposal of Refuse by Contract in City of Boston, 1942.

Contract Districts.	Character of Refuse.	Cubic Yards.	Cost per District.	Cost per Cubic Yard.	Population.	Total Cost Per Capita.
South Boston	Mixed refuse	69,054				
	Garbage	4,388				
	Totals	73,442	$98,487 15	$1 3410	58,889	$1 672
East Boston	Mixed refuse	75,276				
	Garbage	3,788				
	Totals	79,064	$49,965 17	$0 6319	59,663	$0 837
Charlestown	Mixed refuse	38,459				
	Garbage	—				
	Totals	38,459	$51,588 16	$1 3413	25,587	$1 341
Brighton	Mixed refuse	62,105				
	Garbage	6,966				
	Totals	69,071	$58,916 60	$0 8400	62,309	$0 945
West Roxbury	Mixed refuse	100,414				
	Garbage	16,640				
	Totals	117,054	$88,714 40	$0 7579	87,606	$1 012
Dorchester	Mixed refuse	269,066				
	Garbage	48,807				
	Totals	317,873	$219,854 93	$0 6916		

	Garbage disposal, proportionate charge		24,936 96			
	Totals	317,873	$244,791 89	$0 7701	193,892	$1 262
Roxbury (Elm Hill)	Mixed refuse	29,732				
	Garbage	5,911				
	Totals	35,643	$26,717 98	$0 7496	24,083	$1 109
Roxbury	Mixed refuse	79,148				
	Garbage	8,072				
	Totals	87,220	$108,046 99	$1 2388	62,060	$1 741
Back Bay	Mixed refuse	48,076				
	Garbage	—				
	Totals	48,076	$56,783 45	$1 1811	22,648	$2 507
Stuart	Mixed refuse	95,884				
	Garbage	—				
	Totals	95,884	$80,753 61	$0 8422	23,768	$3 061
Hyde Park	Mixed refuse	22,374				
	Garbage	6,328				
	Totals	28,702	$21,843 40	$0 7610	24,742	$0 802
Totals	Mixed refuse	889,588				
	Garbage	100,900				
	Totals	990,488	$886,608 80	$0 8951	645,247	$1 374

TABLE III.

Cost of Collection and Disposal of Refuse by Day Labor Force in the City of Boston for the Year Ending December 31, 1942.

Number.	Districts and Population.	Character of Refuse.	Cubic Yards.	Cost per Cubic Yard.			Total Cost.		Total Cost, Collection and Disposal.	Total Cost Per Capita.
				To Collect.	For Disposal.	Collection and Disposal.	Cost to Collect.	Cost for Disposal.		
		Mixed refuse	83,212	$1 2915	$0 51093	$1 80243	$107,473 90	$42,515 51	$149,989 41	
7.	Roxbury (31,786)	Garbage	3,920	11 6600	0 51093	12 16093	45,706 79	2,002 85	47,709 64	
		Totals	87,132	$1 7580	$0 51093	$2 2689	$153,180 69	$44,518 36	$197,699 05	$6 219
		Mixed refuse	86,968	$1 9584	$0 51093	$2 46933	$170,319 14	$44,440 90	$214,760 04	
8-9.	South End (46,781)	Garbage	—	—	—	—	—	—	—	—
		Totals	86,968	$1 9584	$0 51093	$2 46933	$170,319 14	$44,440 90	$214,760 04	$4 590
		Mixed refuse	106,787	$1 4155	$0 51093	$1 92643	$151,164 23	$54,560 17	$205,724 40	
10.	North and West Ends (46,922)	Garbage	6,111	1 7545	0 51093	2 26543	10,722 17	3,122 29	13,844 46	
		Totals	112,898	$1 4339	$0 51093	$1 94483	$161,886 40	$57,682 46	$219,568 86	$4 677
		Mixed refuse	276,967							
	Totals (125,489)	Garbage	10,031							
		Totals	286,998	$1 6982	$0 51093	$2 20913	$485,386 23	$146,641 72	$632,027 95	$5 036

TABLE IV.

Comparative Costs Per Cubic Yard, 1941-1942.

Number.	Day Labor District.	Collection Cost.		Total Cost, Disposal.		Cubic Yards.	Cubic Yards.
		1941.	1942.	1941. $0 50151	1942. $0 51093	1941.	1942.
7.	Roxbury	$1 4582	$1 7580	$1 9604	$2 26890	139,893	87,132
9.	South End *	1 4113	1 9584	1 9146	2 46933	149,599	86,968
10.	North and West Ends	1 2319	1 4339	1 7334	1 94483	126,406	112,898
	Average	$1 3726	$1 6982	$1 8742	$2 20913	415,898	286,998
	Collection Cost					$570,857 59	$485,386 23

* Contract district No. 9B, "Stuart," established 1942.

Number.	Contract Districts.	Cost Per Cubic Yard.		Cubic Yards.	Cubic Yards.
		1941.	1942.	1941.	1942.
1.	South Boston	$0 9698	$1 3410	72,625	73,442
2.	East Boston	0 5321	0 6319	80,668	79,064
3.	Charlestown	1 1516	1 3413	42,745	38,459
4.	Brighton	0 5633	0 8400	78,289	69,071
5.	West Roxbury	0 5587	0 7579	128,718	117,054
6.	Dorchester (including disposal)	0 6037	0 7701	343,027	317,873
7A.	Elm Hill	0 6147	0 7496	34,679	35,643
7B.	Dudley	1 0913	1 2388	51,439	87,220
9A.	Back Bay	1 2652	1 1811	47,438	48,076
9B.	Stuart *		0 8422		95,884
11.	Hyde Park	0 5692	0 7610	27,948	28,702
	Average	$0 7041	$0 8951		
	Totals			907,576	990,488

* Contract district No. 9B, "Stuart," established 1942.

TABLE V.

Street Cleaning Service, 1942.

Distribution of Expenditures.

Removing snow	$57,173 73
Brooming	409,763 14
Pushcart patrolling	127,529 57
Motor sweeping	59,903 70
Refuse box collections	27,858 22
Sanding slippery streets	3,207 22
Underpass	1,568 00
Flushing	2,182 45
Total	$689,186 03

APPENDIX D.

REPORT OF THE DIVISION ENGINEER OF THE SEWER DIVISION.

Boston, January 2, 1943.

To the Commissioner of Public Works.

I submit herewith statement of the activities and expenditures of the Sewer Division for the year ending December 31, 1942.

During the year there were built by contractors, day labor, private parties, and by the city under W. R. P. supervision, 2.39 miles of common sewers and surface drains throughout the city. After deducting 0.12 miles of sewers and surface drains, rebuilt or abandoned, the net increase for 1942 is 2.27 miles, which added to the existing 1,219.41 miles of common sewers and surface drains and 30.93 miles of intercepting sewers, makes a grand total of 1,252.61 miles of all sewers belonging to the City of Boston, and under the care of the Sewer Division on January 1, 1943.

There were 110 catch-basins built or rebuilt and twenty abandoned or removed during the year, making a net gain of ninety catch-basins and a grand total of 22,526 catch-basins under the care of the Sewer Division on January 1, 1943.

Entrance fees to the amount of $860.34 have been deposited with the City Collector for collection from estates upon which no sewer assessments were ever paid, in accordance with Ordinances of 1910, chapter 9, section 10.

578 permits have been issued, viz., 216 to district foremen and contractors and 362 to drain layers for repairing or laying new house drains. Inspectors from this office have personally inspected the work done under these drain layers' permits.

Plans for the assessments of estates for sewer construction have been furnished the Board of Street Commissioners, representing 9,145.39 linear feet of sewers.

827 complaints have been investigated and inspectors are instructed to report in writing in each case.

710 catch-basin complaints were received.

700 gasoline traps have been examined in garages and cleansing establishments.

600 grease traps have been examined in hotels, restaurants and commercial establishments.

Reported in writing on 1,524 municipal liens to the City Collector, in accordance with chapter 60, section 25, of the General Laws. Reported orally on about 2,200 requests for information on municipal liens.

Notices have been mailed to abutters in conformity with the Ordinances, chapter 27, section 8, apprising them of the construction of new sewers or repairs to old sewers.

During the year 1942, 3,400 catch-basins were cleaned by day labor. None were cleaned by contract.

Robert P. Shea,
Division Engineer.

Sewage Statistics for Year 1942, Calf Pasture Pumping Station.

Month.	Total Gallons Pumped.	Average Gallons Pumped.	Maximum Gallons Pumped.	Minimum Gallons Pumped.	Average Lift. (Feet.)
January	2,960,849,280	95,511,267	144,372,766	75,947,507	39.4
February	3,136,291,131	112,010,397	188,300,454	73,636,867	39.4
March	3,511,771,993	113,282,967	200,194,542	71,910,141	39.4
April	2,812,587,316	93,752,911	132,793,573	79,203,166	39.4
May	2,932,445,118	94,595,004	154,205,412	82,263,541	39.4
June	3,197,363,730	106,578,791	171,510,811	89,487,344	39.4
July	3,078,326,019	99,300,839	159,160,147	79,260,115	39.4
August	3,071,720,489	99,087,758	136,247,611	83,860,928	39.4
September	2,966,227,308	98,874,244	179,234,124	81,484,877	39.4
October	2,971,954,552	95,869,501	156,471,165	81,882,442	39.4
November	3,135,277,676	104,509,256	200,264,755	82,825,500	39.4
December	3,499,076,985	112,873,451	214,230,053	84,098,994	39.4
Totals	37,273,891,597				
Averages	102,120,251				

Running Time of Pumps.— No. 1, 345 hours, 5 minutes; No. 2, 509 hours, 20 minutes; No. 3, 182 hours, 40 minutes; No. 4, 1,224 hours, 40 minutes; No. 5, 5,525 hours, 12 minutes; No. 6, 4,653 hours, 42 minutes; No. 7, 8,221 hours, 16 minutes.

Note.— Gallons pumped by oil, 15,987,771,597; gallons pumped by electricity, 21,286,120,000. Total, 37,273,891,597.

Sewage Pumped.

Total gallons pumped	37,273,891,597
Daily average gallons pumped	102,120,251
Average dynamic head	39.4
Foot gallons	1,468,591,328,921
Foot pounds	1,229,063,688,956

Fuel Record for Year 1942, Calf Pasture Pumping Station.

MONTH.	Fuel Oil Received. Gallons.	Fuel Oil Used. Gallons.	Amount.
January	66,852	70,520	$2,482 41
February	64,445	63,980	2,393 02
March	63,896	70,540	2,431 63
April	65,856	64,350	2,759 47
May	53,394	52,960	2,237 89
June	51,932	53,935	2,391 66
July	42,924	48,149	2,054 62
August	54,869	55,205	2,458 77
September	58,485	56,604	2,590 68
October	59,206	58,920	2,622 49
November	62,705	61,850	2,777 42
December	52,586	66,284	2,277 51
Totals	697,150	723,297	$29,477 57

Cost of Pumping for 1942, Calf Pasture Pumping Station.

ITEMS.	Cost.	Cost per Million Foot Gallons.
Labor	$61,848 89	$0.04211
Edison power	50,667 69	.03450
Fuel oil	29,477 57	.02007
Oils and waste	1,028 60	.00070
Rubber valves and packing	903 66	.00062
Miscellaneous renewals and supplies	4,165 04	.00283
Totals	$148,091 45	$0.10083
Labor at screens	$9,284 72	$0.0063

Electric Current Used for 1942, Calf Pasture Pumping Station.

Month.	Edison Engine Meters. Kilowatt Hours.	Edison Outside Meters. Kilowatt Hours.	Amount.
January	218,800	271,460	$4,122 81
February	262,700	352,180	4,535 31
March	316,800	306,620	4,368 50
April	218,400	274,180	3,883 62
May	265,200	241,620	3,821 88
June	306,400	361,520	4,772 64
July	304,700	276,000	4,261 81
August	262,100	294,000	4,294 54
September	255,600	278,000	4,110 50
October	240,700	256,000	4,053 60
November	230,100	257,320	4,030 03
December	297,700	308,820	4,412 45
Totals	3,179,200	3,477,720	$50,667 69

Amount of Refuse Removed from Filth Hoist for 1942, Calf Pasture Pumping Station.

Month.	Cheeses.	Weight. (Pounds.)
January	154	14,630
February	110	10,450
March	141	13,395
April	144	13,680
May	135	12,825
June	124	11,780
July	110	10,450
August	147	13,965
September	138	13,110
October	151	14,345
November	111	10,545
December	100	9,500
Totals	1,565	148,675

Financial Statement from January 1, 1942, to December 31, 1942.

	Balance on Hand January 1, 1942.	Appropriations and Revenue, 1942.	Transfers from Net.	Transfers to Net.	Total Credits December 31, 1942.	Total Expenditures.	Unexpended.
Sewer Service	.....	$384,575 50	$12,000 00	.....	$372,575 50	$370,363 30	$2,212 20
Sewerage Works, Non-Revenue	$130,902 21	301,001 23	.....	.....	431,913 44	353,238 69	78,674 75
Sewerage Works, Revenue	16,686 06	.....	.....	.....	16,686 06	16,685 95	11
Work Relief Program	29,690 94	50,000 00	5,000 00	$32,000 00	106,690 94	93,699 13	12,991 81
Civilian Precautionary Appropriation ("1")	.....	4,000 00	3,256 05	.....	743 95	353 92	390 03

MAINTENANCE EXPENDITURES FROM JANUARY 1, 1942, TO DECEMBER 31, 1942.

SEWER DIVISION.

Improved Sewerage.

Pumping Station, Calf Pasture, inside	$74,195 45	
Pumping Station, Calf Pasture, outside	5,859 49	
Pumping Station, Calf Pasture, engines	32,649 92	
Pumping Station, Calf Pasture, boilers	43,045 42	
Pumping Station, Union Park street	8,165 98	
Pumping Station, Summer street	2,666 01	
Moon Island	26,464 89	
Main and intercepting sewers	23,937 89	
		$216,985 05

Maintenance — Regular.

Automobiles	$17,325 58	
Cleaning catch-basins	49,350 75	
Cleaning sewers	41,496 43	
Fuel and oil	902 68	
Hardware and tools	1,397 61	
House connections	13,913 84	
Maintenance — Stony Brook	244 51	
Office and engineers' expense	1,467 21	
Office and engineers' salaries	7,368 18	
Stock	1,801 05	
Yard and locker	35,278 73	
Pumps	175 12	
		170,721 69

Maintenance — Repairs.

Repairing department buildings	$288 68	
Repairing catch-basins, South Boston	264 42	
Repairing catch-basins, East Boston	370 29	
Repairing catch-basins, Charlestown	77 78	
Repairing catch-basins, Brighton	508 42	
Repairing catch-basins, West Roxbury	940 30	
Repairing catch-basins, Dorchester	3,240 94	
Repairing catch-basins, Hyde Park	375 84	
Repairing catch-basins, Roxbury	656 52	
Repairing catch-basins, City Proper	778 24	
Repairing sewers, South Boston	52 28	
Repairing sewers, East Boston	101 22	
Repairing sewers, Brighton	209 99	
Repairing sewers, West Roxbury	572 22	
Repairing sewers, Dorchester	1,497 15	
Repairing sewers, Hyde Park	583 86	
Repairing sewers, Roxbury	182 22	
Repairing sewers, City Proper	464 59	
		11,164 96

Maintenance — Miscellaneous.

Miscellaneous	$19,194 87	
Back Bay Fens	364 02	
Telephones	777 77	
Rubber goods	259 70	
Pensions and annuities	6,477 72	
Holidays, vacations, time allowed	27,739 35	
Civilian Defense	3,144 54	
		57,957 97
Total		$456,829 67

CREDITS.

Trucks, cleaning machines, etc., used on maintenance	$19,999 24	
Maintenance stock used on maintenance	2,016 13	
Construction stock used on maintenance	2,020 86	
Materials purchased by construction used on maintenance	5,418 09	
Maintenance pay rolls paid by construction	50,987 19	
Maintenance pay rolls paid by W. R. P.	4,318 69	
Unliquidated reserve	375 76	
Debit transfer to construction for trucks used on construction, June 1, 1942	1,077 00	
Debit transfer to construction for trucks used on construction, July 31, 1942	585 91	
		86,798 87
		$370,030 80

DEBITS.

Construction pay rolls, paid by maintenance	332 50
Total maintenance expenditures, December 31, 1942	$370,363 30

Sewer Division — Maintenance, Expenditures, Details, 1942.

Accounts.	Totals.	Labor.	Autos, Trucks and Cleaning Machines.	Materials.	Contractors.	Miscellaneous.	
Automobiles	$17,325 58			$133 06		Equipment	$1,360 24
						Repairs	8,194 64
						Supplies	3,481 12
						Storage	992 00
						Fees	76 00
						Sundries	306 82
						New cars	2,781 70
Cleaning catch-basins	49,350 75	$39,342 95	$9,830 16	177 64			
Cleaning sewers	41,496 43	36,333 28	5,038 27	117 88		Dumping	7 00
Fuel and oil	902 68					Oil	49 08
						Coal	853 60
Hardware and tools	1,397 61					Hose	118 00
						Hardware	5 18
						Instruments and tools	1,223 68
						Repairs	50 75
House connections	13,913 84	13,893 20	20 64				
Maintenance, Stony Brook	244 51	193 21	22 50	28 80			
Office and engineers' expense	1,467 21		299 03	319 76		Repairs	24 20
						Printing	742 85
						Postage	34 38
						Sundries	28 70
						Equipment	18 29
Office and engineers' salaries	7,368 18	7,368 18					
Stock	1,801 05	3 84	35 51	1,761 70			
Yard and locker	35,278 73	33,933 34	527 63	440 58		Electric service	250 84
						Repairs	54 44
						Sundries	71 90

Pumps	175 12					Repairs	175 12
Miscellaneous	19,194 87	5,823 94	1,352 14	896 28		Workmen's Compensation	548 35
						Injured	1,821 22
						Garage trap inspection	1,866 83
						Grease trap inspection	5,272 49
						Sundries	1,613 62
Back Bay Fens	364 02					Repairs	268 19
						Electric service	95 83
Telephones	777 77					Telephone service	777 77
Rubber goods	259 70					Hats	12 20
						Coats	184 20
						Mitts	63 30
Pensions and annuities	6,477 72					Veterans' pensions	6,477 72
Holidays, vacations, etc	27,739 35					Vacations	10,354 14
						Sickness	712 61
						Holidays	7,394 30
						Time allowed	9,278 30
Civilian Defense	3,144 54	2,778 74	157 38	208 42			
Repairing department buildings	288 68	153 00	103 50	32 18			
Repairing catch-basins, South Boston	264 42	178 25	16 50	129 67			
Repairing catch-basins, East Boston	370 29	328 66	15 00	26 63			
Repairing catch-basins, Charlestown	77 78		51 00	26 78			
Repairing catch-basins, Brighton	508 42	376 37	17 00	115 05			
Repairing catch-basins, West Roxbury	940 30	699 84	106 00	134 46			
Repairing catch-basins, Dorchester	3,240 94	2,390 53	158 08	692 33			
Carried forward	$234,370 49	$143,797 33	$17,750 34	$5,241 22			$67,641 60

Sewer Division — Maintenance, Expenditures, Details, 1942.— Concluded.

Accounts.	Totals.	Labor.	Autos, Trucks and Cleaning Machines.	Tools and Materials.	Contractors.	Miscellaneous.	
Brought forward	$234,370 49	$143,797 33	$17,750 34	$5,241 22			$67,641 60
Repairing catch-basins, Hyde Park	375 84	169 78	30 00	176 06			
Repairing catch-basins, Roxbury	656 52	275 94	69 50	311 08			
Repairing catch-basins, City Proper	778 24	473 21	69 00	236 03			
Repairing sewers, South Boston	52 28		18 00	34 28			
Repairing sewers, East Boston	101 22	35 50	36 00	29 72			
Repairing sewers, Brighton	209 99	110 25	40 00	59 74			
Repairing sewers, West Roxbury	572 22	390 07	35 50	146 65			
Repairing sewers, Dorchester	1,497 15	1,151 72	62 04	283 39			
Repairing sewers, Hyde Park	583 86	494 37	27 00	62 49			
Repairing sewers, Roxbury	182 22	74 55	20 00	87 67			
Repairing sewers, City Proper	464 59	211 27	47 50	204 32		Dumping	1 50
Totals	$239,844 62	$147,123 99	$18,204 88	$6,872 65			$67,643 10

CREDITS.							
Trucks used on maintenance	$19,999 24						
Stock used on maintenance	2,016 13						
Construction, stock used on maintenance	2,020 86						
Materials paid for by construction	5,418 09						
Pay rolls paid for by construction	50,987 19						
Pay rolls paid for by W. R. P.	4,318 69						
Unliquidated reserve (1941)	375 76						
Debit transfer to construction for trucks (June 1, 1942)	1,077 00						
Debit transfer to construction for trucks (July 31, 1942)	585 91	86,798 87	55,305 88	.....	4,036 99	.....	..... 27,456 00
Totals		$153,045 75	$91,818 11	$18,204 88	$2,835 66	.....	..... $40,187 10
DEBITS.							
Construction pay rolls paid by maintenance		332 50	332 50				
Total expenditures		$153,378 25	$92,150 61	$18,204 88	$2,835 66	.....	..... $40,187 10

Sewer Division — Maintenance, Expenditures, Details, 1942.

ACCOUNTS.	Totals.	Labor.	Trucks.	Repairs.	Grease, Oil and Gasoline.	Fuel and Power.	Tools, Materials and Instruments.	Taxes.	Miscellaneous.
Pumping Stations:									
Calf Pasture, inside	$74,195 45	$21,936 11	.....	$256 84	$42 65	$50,667 69	$1,105 29	.....	$186 87
Calf Pasture, outside	5,859 49	5,367 10	.....	184 76	.....	.....	177 26	.....	130 37
Calf Pasture, engines	32,649 92	28,207 46	.....	427 72	857 76	2,759 47	397 51		
Calf Pasture, boilers	43,045 42	11,757 63	$84 50	238 59	52 61	27,204 51	3,707 58		
Union Park Street	8,165 98	5,405 19	10 00	24 04	34 85	2,082 13	366 96	.....	242 81
Summer Street	2,666 01	1,049 36	.....	.....	.....	1,616 65			
Moon Island	26,464 89	22,795 73	9 00	1,354 95	506 24	366 90	72 06	$1,255 50	104 51
Main and intercepting sewers	23,937 89	22,132 24	1,801 00	.....	.....	.....	4 65		
Totals	$216,985 05	$118,650 82	$1,904 50	$2,486 90	$1,494 11	$84,697 35	$5,831 31	$1,255 50	$664 56

Recapitulation, Maintenance, Detail, 1942.

ACCOUNTS.	Improved Sewers.	Outside Improved Sewers.	Total.
Labor	$118,650 82	$190,849 95	$309,500 77
Contractors			
Trucks	1,904 50	18,204 88	20,109 38
Repairs	2,486 90	8,767 34	11,254 24
Grease, oil and gasoline	1,494 11	49 08	1,543 19
Light, fuel and power	84,697 35	1,200 27	85,897 62
Materials, tools and instruments	5,831 31	8,479 21	14,310 52
Equipment and supplies		5,636 88	5,636 88
Storage		992 00	992 00
Telephones		777 77	777 77
Taxes	1,255 50		1,255 50
Sundries	664 56	2,105 54	2,770 10
New cars		2,781 70	2,781 70
Totals	$216,985 05	$239,844 62	$456,829 67

CREDITS.	Improved Sewers.	Outside Improved Sewers.		
Maintenance stock used on maintenance	$26 22	$1,989 91		
Construction stock used on maintenance		2,020 86		
Trucks, cleaning machines, etc	1,904 50	18,094 74		
Materials paid for by construction		5,418 09		
Maintenance pay rolls paid by construction		50,987 19		
Maintenance pay rolls paid by W. R. P		4,318 69		
Unliquidated reserve (1941)		375 76		
Debit transferred to construction (trucks), June 1, 1942		1,077 00		
Debit transferred to construction (trucks), July 31, 1942		585 91	1,930 72	84,868 15	86,798 87
Totals			$215,054 33	$154,976 47	$370,030 80
DEBITS.					
Construction pay roll paid by maintenance		$332 50		332 50	332 50
Total expenditures			$215,054 33	$155,308 97	$370,363 30

Sewerage Works, 1942.

Accounts.	Totals.	Labor.	Compressors, Pumps and Trucks.	Tools and Materials.	Contractors.	Sundries.
Officers' and engineers' salaries	$109,704 09	$109,704 09				
Officers' and engineers' expense	16,465 68	3,396 13	$6,610 38	$4,441 65	$440 48	$1,577 04
Miscellaneous	9,046 56	7,421 56	254 90	480 87	753 04	136 19
Land-takings	634 50					634 50
New manholes, entire city	4,481 86	3,993 25	57 50	336 62	94 49	
New catch-basins, South Boston	3,871 89	3,255 25	224 50	392 14		
New catch-basins, East Boston	1,605 64	204 92		57 56	1,343 16	
New catch-basins, Charlestown	387 54	142 33	12 00	18 35	214 86	
New catch-basins, Brighton	601 64	475 06	84 00	42 58		
New catch-basins, West Roxbury	1,356 90	644 30	20 00	288 68	403 92	
New catch-basins, Dorchester	1,797 43	1,502 53	65 64	229 26		
New catch-basins, Hyde Park	845 65	697 30	40 00	108 35		
New catch-basins, Roxbury	3,722 74	2,891 97	117 00	298 25	414 52	1 00
New catch-basins, City Proper	11,160 40	10,207 13	410 50	536 77		6 00
Release sewers	2,306 83	1,715 80		591 03		
Testing laboratory	186 46			128 49		57 97
Stock	14,195 35			14,195 35		
Holidays	12,146 97	12,146 97				
Unadvertised jobs	3,419 26	363 13		543 69	2,512 44	
Repair streets	1,314 63				1,314 63	
Miscellaneous totals	$199,252 02	$158,761 72	$7,896 42	$22,689 64	$7,491 54	$2,412 70
Sewers built, entire by city	107,459 84	23,075 65	517 13	8,217 68	75,447 13	202 25
Totals	$306,711 86	$181,837 37	$8,413 55	$30,907 32	$82,938 67	$2,614 95

LESS CREDITS.							
Cost of maintenance stock used on construction	$3,137 40				3,137 40		
Cost of construction stock used on construction	5,931 28				5,931 28		
Cost of maintaining trucks used on construction	1,877 04			1,877 04			
Construction pay rolls paid by W. R. P.	595 06		595 06				
Construction pay rolls paid by maintenance	332 50		332 50				
Debit Transfers:							
To Paving Service, for blueprinting	3,700 00		3,700 00				
To Water Service, for blueprinting	2,165 00		2,165 00				
To Bridge Service, for blueprinting	2,300 00		2,300 00				
Total credits		$20,038 28	$9,092 56	$1,877 04	$9,068 68		
Totals		$286,673 58	$172,744 81	$6,536 51	$21,838 64	$82,938 67	$2,614 95
PLUS DEBITS.							
Maintenance pay rolls paid by construction		50,987 19	50,987 19				
W. R. P. pay rolls paid by construction		18,471 79	18,471 79				
W. R. P. materials paid for by construction		6,711 08			6,711 08		
Maintenance materials paid for by construction		5,418 09			5,418 09		
Debit transfers from maintenance for trucks, June 1, 1942		1,077 00		1,077 00			
Debit transfers from maintenance for trucks, July 31, 1942		585 91		585 91			
Total expenditures, December 31, 1942		$369,924 64	$242,203 79	$8,199 42	$33,967 81	$82,938 67	$2,614 95

Sewerage Works, Construction, January 1, 1942, to December 31, 1942.

Location.	Begun.	Finished.	Built by.	Length in Feet.	Character.	Amount Expended in 1942.
East Boston.						
Havre street, from Maverick street to Decatur street.	Sept. 15, 1941	Oct. 21, 1941	Edward M. Matz, Inc.	.....	Final payments. No construction, 1942	$868 92
Charlestown.						
Private land and Clinton place, from Cambridge street to Perkins street and across railroad property from Haverhill street to Perkins street.	April 22, 1942	June 2, 1942	N. Cibotti	340.25 13.95 180.40	24" D. S. pipe, sewer (including 13.95 linear feet 24" D. S. pipe siphon). 15" cast-iron pipe overflow. 6 minor drains. 4 manholes. 24" brick sewer abandoned.	6,196 79
Brighton.						
Chestnut Hill avenue, from Hatherly road to Chiswick road.	Oct. 1, 1941	Nov. 17, 1941	E. L. Oak	36.00	Minor drain 131.86 cubic yards of rock excavated. 1 manhole invert. 1 connection. 116.7' edgestone set. 1,329 square feet concrete sidewalk foundation and wearing surface.	382 08
Goodenough street, from Faneuil street to North Beacon street.	Sept. 12, 1941	Oct. 6, 1941	J. D'Amico	22.00	Minor drain	100 39
Buick street, Woodmont street, Wadsworth street, Wiltshire road and Etna street.	June 9, 1942	July 28, 1942	Arthur W. Holland	211.00	Minor drain 2 Y's placed. 2 slants placed. 6 connections. 10 catch-basins. 1 drop inlet. 1 manhole.	3,597 16

Wiltshire road, from existing sewer to point 125 feet southeasterly.	Aug.	14, 1942	Sept.	28, 1942	Charles Struzziery & So....	131.18 144.83 145.64	10″ H. S..... 10″ pipe, surface drain. Cubic yards rock. 6″ minor drain. 2 manholes.	3,031 59
WEST ROXBURY.								
Hewlett street brook.....	Sept.	15, 1941	Sept.	27, 1941	The Prompt Contractors, Inc.	.....	51.50 cubic yards concrete..... 61 quare yards bitumen concrete surface. 2 manholes. 1 brick bulkhead.	213 23
Herbertson road, Casper street and Crehore road (done in connection with Paving Division contract).	Sept.	10, 1941	Nov.	15, 1941	Edward M. Matz, Inc.....	.....	4 Y's placed..... 3 slants placed.	638 21
Jaeger terrace, Rickerhill road, Churchill road, Wachusett street and Partridge street (done in connection with Paving Division contract).	Aug.	4, 1941	Oct.	30, 1941	Earl M. Carriere.....	.....	10 Y's placed..... 3 slants placed. 1 drop inlet.	447 75
Repaving sewer trenches in various streets in various districts.	Nov.	10, 1941	Dec.	19, 1941	J. J. Callahan.....	.....	Engineering records no construction in 1942.	1,966 36
Roswell street, Amory avenue, Rockvale Circle and Amory street.	Aug.	12, 1941	Dec.	16, 1941	Charles Capone.....	.....	Final payments..... 1 drop inlet.	1,346 29
Spring street, opposite Loretto street and land of United States Government, from Veterans of Foreign Wars Highway to Spring street.	Jan.	22, 1942	March	10, 1942	R. Zoppo.....	51.00 50.00 769.36 26.00	10″ pipe, sewer..... 20″ pipe, surface drain. 30″ pipe, surface drain. Minor drain. 4 manholes. 5 connections. 997.51 square yards sidewalk relaid. 71.5′ curbstone reset.	9,403 58
Poplar street, from Deforest street to summit 180 feet southwest of Beech street.	April	13, 1942	May	15, 1942	Baker & Co.....	917.52 89.00	10″ pipe sewer, including 10″ pipe, surface drain. Minor drain. 1 manhole on sewer. 4 combination manholes. 2 manhole connections.	6,082 26

Sewerage Works, Construction, January 1, 1942, to December 31, 1942.—Continued.

Location.	Begun.	Finished.	Built by.	Length in Feet.	Character.	Amount Expended in 1942.
Redgate road, from St. Theresa avenue to 180 feet northeasterly.	May 4, 1942	May 16, 1942	Charles Struzziery & Son...	169.20 99.90 6.00	10" pipe, sewer, including 12" pipe, surface drain. Minor drain. 1 manhole. 2 sewer connections. 136.02 square yards of cold patch resurfacing.	$1,499 38
Chellman street, from Veterans of Foreign Wars Parkway to Addington road.	May 25, 1942	June 3, 1942	Baker & Co.....	190.48 185.48 30.10 36.00	10" pipe, sewer, including 10" pipe, surface drain. 10" pipe, surface drain. Minor drain. 1 manhole. 2 catch-basins. 1 Y placed. 3 inverts.	1,720 32
Cotuit street, Maynard street, Centre terrace, Chilton road and Miami avenue.	July 17, 1942	Aug. 27, 1942	Baker & Co.....	229.00	Minor drain..... 14 catch-basins. 2 drop inlets. 9 connections. 6 Y's placed.	4,181 03
Harding road, between Hadwin way and Stella road, and outlet in Stella road, Stella Brook conduit.	Aug. 6, 1941	Sept. 4, 1941	Frank J. Jacobs.....	140.00	Minor drain..... 1 manhole on existing sewer.	161 54
Heldun street and Dunwell street.....	June 4, 1942	June 22, 1942	The Prompt Contractors, Inc.	548.32 188.05 118.00	12" pipe, surface drain..... 15" pipe, surface drain. Minor drain. 4 manholes. 3 catch-basins. 1 invert.	3,757 59
Louder's lane in land of Moss Hill School...	June 10, 1942	Dec. 5, 1942	Department labor.....	28.00	30" pipe, surface drain..... 1 manhole.	4,821 99
Washington street, cross-over from 140 feet northeast of Rockingham avenue.	June 15, 1942	Sept. 1, 1942	Department labor.....	65.00 70.00	12" pipe, surface drain..... 12" H. S. 3 manholes.	4,625 44

DORCHESTER.								
Burgoyne street, Cedar Grove street, Faunce road, Rita road and Wooddale avenue.	July	8, 1941	Sept.	30, 1941	Edward M. Matz, Inc.		3 Y's placed. 4 slants placed.	287 43
Beatrice street, between Paula road and Groveland street, Galty avenue, from 40 feet southeast of Mercier avenue to 380 feet southeasterly, Barna road, from Galty avenue 146 feet northeasterly.	May	26, 1941	July	12, 1941	The Prompt Contractors, Inc.		Final payment. No construction in 1942.	318 46
Danbury road (Ward 18), from Wood avenue to George street, and Auriga street (Ward 16), from Westglow street to 435 feet westerly.	Sept.	8, 1941	Sept.	10, 1941	Samuel J. Tomasello Corporation.		Final payment. No construction in 1942.	159 02
Mercier avenue, from existing sewer 194 feet westerly and in Regan road, from Range road to 90 feet westerly.	July	21, 1941	July	25, 1941	The Prompt Contractors, Inc.		Final payment. No construction in 1942.	58 42
Mercier avenue, from existing sewer 80 feet west of Range road to 366 feet westerly.	Oct.	10, 1941	Oct.	23, 1941	The Prompt Contractors, Inc.		Final payments. No construction in 1942.	601 96
Wendover street, Dorchester, and Glenvale terrace, West Roxbury.	Dec.	5, 1941	Dec.	31, 1941	Frank J. Jacobs Company.	48.00 17.77	10″ minor drain. Square yards bituminous resurfacing. 3 catch-basins.	1,120 67
Blue Hill avenue, from Charlotte street to Columbia road.	Sept.	29, 1941	Dec.	2, 1941	Baker & Co.		1 drop inlet. 5 old catch-basins dismantled. Final payments.	798 28
Concrete pavement and sewerage works in Glover court, South Boston, Melville lane, Dorchester, Magnolia street, Dorchester, Wave avenue, Dorchester, Rosselerin road, Dorchester, Davidson avenue, Dorchester, St. Brendan road, Dorchester, and Gretter road, West Roxbury.	Sept.	15, 1941	Nov.	15, 1941	Baker & Co.		Regulated catch-basins. 1 catch-basin rebuilt. 3 manholes rebuilt.	110 70
Clover street, from Gallivan Boulevard to Minot street.	Aug.	1, 1941	Sept.	2, 1941	The Prompt Contractors, Inc.		No construction in 1942. Final payment.	148 23
Regan road, Dorchester, and catch-basins in Galty avenue, Mercier avenue, Range road and Regan road.	April	17, 1942	April	22, 1942	Charles Struzziery.	233.80 226.80 7.00 132.00	10″ pipe, sewer. 12″ pipe, surface drain. 12″ cast-iron pipe. Minor drain. 4 manholes. 7 catch-basins.	3,211 30

Sewerage Works, Construction, January 1, 1942, to December 31, 1942.— Continued.

Location.	Begun.	Finished.	Built by.	Length in Feet.	Character.	Amount Expended in 1942.
Lakeside avenue, from Sprague Pond to Sprague street, and Sprague street, from Lakeside avenue to 70 feet northwesterly.	Sept. 16, 1941	Sept. 24, 1941	Baker & Co	.....	No construction in 1942..... Final payment.	$85 31
Doone avenue, from Stow road to Glenhill road and Glenhill road, at Doone avenue.	June 2, 1942	June 20, 1942	Baker & Co	197.55 56.43 74.00	18″ reinforced concrete pipe..... 12″ pipe, surface drain. Minor drain. 1 manhole. 2 catch-basins. 1 lamp hole.	1,454 62
Glenhill road, from Tiverton road to 641 feet southwesterly.	Sept. 30, 1942	Nov. 12, 1942	The Prompt Contractors, Inc.	587.22 265.00	12″ pipe, surface drain..... Minor drain. 3 catch-basins. 3 manholes.	4,457.08
Church street, Dorchester, East street to High street.	Nov. 23, 1942	Jan. 8, 1943	J. D'Amico	40.00	10″ catch-basin drain..... 1 catch-basin changed to manhole. 2 catch-basins rebuilt. 1 catch-basin built. 1 drop inlet built.	295.51
Hyde Park.						
Farrar avenue, from 385 feet east of Ruskin road to 500 feet easterly.	Dec. 8, 1941	Jan. 5, 1942	Charles Struzziery	201.53 296.07 195.10 302.50 17.00	12″ pipe, sewer..... 10″ pipe, sewer. 15″ pipe, surface drain. 12″ pipe, surface drain. Minor drain. 4 manholes.	4,055 36
Wood avenue (Ward 18), from River street to Cummins Highway.	Aug. 8, 1941	Nov. 3, 1941	Charles Capone	.....	Final payment..... Engineering records. No construction in 1942.	461 59
Poplar street, from Deforest street to Hyde Park line, and West street, between West Roxbury line and 265 feet southerly.	Aug. 11, 1941	Aug. 30, 1941	D. Rufo	.....	No construction in 1942..... Engineering. Advertising.	173 85

Austin street, Magee street, Sherrin street, surface drains built in conjunction with release sewers.	May	18, 1942	June	27, 1942	K. V. Wolsey	814.17 107.25 50.00	12" and 15" surface drains 12" and 15" surface drains in outside trench. 24" culvert. 6 manholes. 1 lamp hole.	1,979 36
River street, from Neponset River Parkway to Dedham line.	July	27, 1942	Oct.	14, 1942	John Williams	984.94 207.10 208.55 416.15 210.55 311.00	24" pipe, surface drain 21" pipe, surface drain. 18" pipe, surface drain. 15" pipe, surface drain. 12" pipe, surface drain. Minor drain. 2 catch-basins rebuilt. 13 new catch-basins. 1 manhole built on old sewer. 11 manholes built on surface drain.	18,194 21
Construction of surface drains in conjunction with sanitary sewers, built under release agreements in Deforest street, Hallron street, McDonald street, Bates street and Grassmere road.	June	23, 1941	Sept.	9, 1941	Frank J. Jacobs under contract with Contractor Wolsey.	.....	No construction in 1942	76 00
West street, from Gwinnett street to Austin street.	Aug.	31, 1942	Sept.	26, 1942	The Prompt Contractors, Inc.	243.00 216.00	12" pipe, surface drain, including 7' cast-iron pipe. Minor drain. 3 manholes. 6 catch-basins. 1 drop inlet.	2,143 68
Construction of nine catch-basins, more or less, in Deforest street, Grassmere road, Hallron street, Bates street and McDonald street.	Aug.	24, 1942	Sept.	15, 1942	Excavation by K. V. Wolsey. Masonry done by E. G. Dailey, Contractor.	168.00 18.00	10" pipe 12" pipe. 9 catch-basins.	2,990 22
ROXBURY.								
Parker street, from Delle avenue to 156 feet southerly (bitumen concrete pavement and sewerage works).	Nov.	18, 1941	Dec.	3, 1941	Charles Struzziery	19.00	10" and 12" catch-basin drains, 1 pipe connection.	85 74
Colburn street, Whiting street, Wave street, private land, Edgemere road, Miller street.	Sept.	17, 1931	April	6, 1932	C. Russo	.....	Final estimate No construction in 1942.	50 00

Sewerage Works, Construction, January 1, 1942, to December 31, 1942.— Continued.

Location.	Begun.	Finished.	Built by.	Length in Feet.	Character.	Amount Expended in 1942.
Washington street and Corliss street	June 3, 1942	June 30, 1942	N. Cibotti	31.83 42.00	12" pipe, surface drain Minor drain. 2 manholes. 1 catch-basin. 1 drop inlet.	$1,820 77
City Proper.						
Newbury street, from Arlington street to Clarendon street.	Dec. 1, 1941	May 5, 1942	Rufo Construction Company.	72.00	Minor drain 8 catch-basins. 8 catch-basins dismantled. 1 manhole.	1,661 80
Pearl street, from Milk street to Franklin street.	Aug. 24, 1942	In progress	Edward M. Matz, Inc	320	24" D. S. pipe, sewer	5,618 17

W. R. P. Construction, January 1, 1942, to December 31, 1942.

Location.	Begun.	Finished.	Built by.	Length in Feet.	Character.	Amount Expended in 1942.
MISCELLANEOUS.						
Miscellaneous	Jan. 1, 1942	Dec. 31, 1942	W. R. P.			$48,501 93
Catch-basin unit (stencilling) — Sanitary Service project.	Sept. 1, 1942	Dec. 31, 1942	W. R. P.		1,200 hours for hired truck paid by sewer service. 14,702 catch-basins stencilled.	1,500 00
SOUTH BOSTON.						
Private land off E street	Jan. 11, 1940	Nov. 9, 1940	W. R. P.		Engineering only, no construction.	17 53
BRIGHTON.						
Western avenue, new office building	Aug. 6, 1940	July 31, 1942	W. R. P.		Miscellaneous plumbing. Finish floor. Furniture.	446 84
WEST ROXBURY.						
Eastwood circuit, from Prospect street to Prospect street, and Belle avenue, Rockcliff street, Gould street and private land, Oakmere road.	Resumed Feb. 24, 1941	Feb. 14, 1942	W. R. P.	159.00 717.00	15″ pipe sewer. 10″ underdrain. 4 manholes.	5,460 32
Elmwood street brook and Keystone street,	Nov. 12, 1940	May 18, 1942	W. R. P.	152.00 39.00 34 00 4.00 60.00 66.00	7′ circular concrete conduit 4′ circular concrete conduit. 3′ circular concrete conduit. 15″ pipe surface drain. 10″ pipe sewer. 10″ catch-basin drain. 9 manholes. 6 catch-basins.	19,322 14

W. R. P. Construction, January 1, 1942, to December 31, 1942.— Concluded.

Location.	Begun.	Finished.	Built by.	Length in Feet.	Character.	Amount Expended in 1942.
DORCHESTER.						
Range road, between Dorchester avenue and Barna road, Galty avenue, between 80 feet northwest of Barna road and 170 feet southeasterly, Barna road, between Range road and Galty avenue, Dorchester avenue, at Range road.	June 17, 1940	Sept. 28, 1940	W. R. P.	.....	Engineering only, no construction..	$100 32
Cheverus road, from Dorchester avenue to end of street.	April 19, 1940	May 19, 1940	W. R. P.	.....	Engineering only, no construction..	35 84
Almont street, from Savannah avenue to Walk Hill street.	Dec. 20, 1940	April 19, 1941	W. R. P.	.....	Engineering only, no construction..	43 31
HYDE PARK.						
Belnel road, between Osceola and Poydras streets, Hopewell road, between Belnel road and Osceola street, Coronado street, between Belnel road and 212 feet southeasterly, Poydras street, between Belnel road and 140 feet southwesterly, Friendship road, between Belnel road and Osceola street, private land (City of Boston), between Belnel road and Neponset river, private land (Commonwealth of Massachusetts), between Belnel road and Neponset river, Osceola street, between River street and private land (Commonwealth of Massachusetts).	May 6, 1940	Jan. 31, 1941	W. R. P.	.....	No construction	4 64
West street, between Gwinnett street and Hyde Park-West Roxbury line, Hyde Park.	Jan. 6, 1941	Feb. 7, 1942	W. R. P.	243.00 216.00	12" pipe, surface drain Minor drain. 6 catch-basins. 3 manholes. 1 drop inlet.	4,795 96
Pleasantview street, between Cummins Highway and Roanoke road, and outlet in Anafran street.	Nov. 18, 1940	Jan. 26, 1941	W. R. P.	.....	Engineering Inspection. Labor. Trucking.	5,524 51

Sumner brook in private land and Lewis street, between Frazer street and Edwards street.	Feb.	1, 1941	Nov.	6, 1941	W. R. P.		Engineering only	3,607 69
ROXBURY.								
Highland street, Roxbury—demolition and erection project.	July	2, 1940	Oct.	31, 1942	W. R. P.		Concrete floors. Walls. Interior finish. Plumbing system. Heating system.	25,166 56
Eustis street housing project	May	21, 1941	Oct.	6, 1941	W. R. P.		Resurfacing	133 47
Housing project, Mission Hill	Jan.	1, 1941	Dec.	31, 1941	W. R. P.		3 catch-basin traps	31 14
CITY PROPER.								
Huntington Avenue Subway					W. R. P.		Transit Department project, inspection only by Sewer Division.	415 87
								$115,108 37

DEBITS.		
Sewer Service pay rolls paid by W. R. P.	$4,318 69	
Sewerage Works pay rolls paid by W. R. P.	595 06	4,913 75
		$120,022 12
CREDITS.		
W. R. P. pay rolls paid by Sewerage Works	$18,471 79	
W. R. P. materials paid for by Sewerage Works	6,711 08	
Sewerage Works stock used on W. R. P.	816 21	
W. R. P. materials paid for by Sewer Service	108 65	
Sewer Service trucks used on W. R. P.	215 26	26,322 99
Total W. R. P. expenditures December 31, 1942		$93,699 13

Civilian Precautionary Appropriation ("I" Item) Expenditures, 1942.

LOCATION.	Begun.	Finished.	Built by.	Length in Feet.	Character.	Amount Expended in 1942.
	May, 1942	Dec. 31, 1942	Civilian Precautionary Appropriation.	.....	Tools and materials.....	$353 92
Total expenditures, December 31, 1942.....						$353 92

Emergency Fuel Loan.

LOCATION.	Begun.	Finished.		Length in Feet.	Character.	Amount Expended in 1942.
Pumping station boilers.....	.....	Dec., 1942	White Fuel Corporation....	.....	1,676.27 tons coal.....	$14,717 65

Summary of Sewer Construction for Twelve Months ending December 31, 1942.

DISTRICTS.	Built by the City Either by Contract or Day Labor.	Built by the City Under Auspices of W. R. P.	Built by Private Parties, Etc., or Other City Departments.	Total Lengths Built.	
	Linear Feet.	*Linear Feet.*	*Linear Feet.*	*Linear Feet.*	*Miles.*
City Proper	320.00	None.	None.	320.00	0.060
Roxbury	31.83	None.	None.	31.83	0.006
South Boston	None.	None.	None.	None.	None.
East Boston	None.	None.	None.	None.	None.
Charlestown	354.20	None.	None.	354.20	0.067
Brighton	276.00	None.	None.	276.00	0.052
West Roxbury	4,180.00	457.00	576.00	5,213.00	0.987
Dorchester	1,560.80	None.	None.	1,560.80	0.297
Hyde Park	3,458.91	None.	1,392.20	4,851.11	0.919
Totals	10,181.74	457.00	1,968.20	12,606.94	2.388

Summary of Sewer Construction for Five Years Previous to January 1, 1943.

	1938.	1939.	1940.	1941.	1942.
	Linear Feet.	*Linear Feet.*	*Linear Feet.*	*Linear Feet.*	*Linear Feet.*
Built by the city by contract or day labor	2,371.75	1,959.27	5,178.99	11,209.99	10,181.74
Built by the city under auspices of W. P. A., etc.	43,239.69	39,096.06	43,649.38	32,363.69	457.00
Built by private parties or other city departments	1,771.00	3,087.45	8,237.38	9,029.94	1,968.20
Totals	47,382.44	44,142.78	57,065.75	52,603.62	12,606.94

Total Length of Sewers.

DISTRICTS.	Total Length Built During Twelve Months Ending December 31, 1942.	Lengths Removed or Abandoned During Twelve Months Ending December 31, 1942.	Additional Lengths for the Twelve Months Ending December 31, 1942.	
	Linear Feet.	*Linear Feet.*	*Linear Feet.*	*Miles.*
City Proper	320.00	320.00	.....	.....
Roxbury	31.83	.....	31.83	0.006
South Boston	None.	None.	None.	None.
East Boston	None.	None.	None.	None.
Charlestown	354.20	180.40	173.80	0.033
Brighton	276.00	.....	276.00	0.052
West Roxbury	5,213.00	.....	5,213.00	0.987
Dorchester	1,560.80	101.00	1,459.80	0.277
Hyde Park	4,851.11	.....	4,851.11	0.919
Totals	12,606.94	601.40	12,005.54	2.274

Grand Total Length of Sewers.	Miles.
Common sewers and surface drains built previous to January 1, 1942	1,219.41
Common sewers and surface drains built between January 1, 1942, and December 31, 1942	2.27
Total lengths of common sewers and surface drains built to December 31, 1942	1,221.68
Total length of city intercepting sewers connecting with Metropolitan sewers to December 31, 1942	* 6.81
Total length of Boston main drainage intercepting sewers to December 31, 1942	* 24.12
Grand total of common and intercepting sewers to December 31, 1942	1,252.61
Total mileage of streets containing sewerage works to January 1, 1943	683.61

* No additional lengths built during 1942.

Catch-Basins in Charge of Sewer Division.

DISTRICTS.	CATCH-BASINS FOR TWELVE MONTHS ENDING DECEMBER 31, 1942.			TOTAL FOR WHOLE CITY IN CHARGE OF SEWER DIVISION.	
	Number Built or Rebuilt.	Number Abandoned or Removed.	Net Increase.	Previous Report to January 1, 1942.	Grand Total to January 1, 1943.
City Proper	3	3	0	3,627	3,627
Roxbury	5	5	0	3,388	3,388
South Boston	2	2	0	1,456	1,456
East Boston	4	2	2	1,098	1,100
Charlestown	1	1	0	839	839
Brighton	11	0	11	1,969	1,980
West Roxbury	32	0	32	3,852	3,884
Dorchester	20	5	15	5,323	5,338
Hyde Park	32	2	30	884	914
Totals	110	20	90	22,436	22,526

APPENDIX E.

REPORT OF THE DIVISION ENGINEER OF THE WATER DIVISION.

Boston, January 2, 1943.

To the Commissioner of Public Works.

I respectfully submit the following report of the activities of the Water Division, operations and expenditures for the fiscal year ending December 31, 1942.

In order to cooperate with the United States Government in the conservation of critical material, the work of laying and relaying water pipes has been severely curtailed, so that but very little work of this nature was performed during the year.

The department was able to cope with the increased demands for water service by governmental agencies and private manufacturing plants engaged in war work without extension of additional water mains or the relaying of old mains.

During the year 1,296 linear feet of water mains were extended, this work being performed to provide water facilities to new housing areas developed in connection with the war work. Seven hundred sixteen feet of pipe was relaid due to defective water mains.

Engineering Branch.

This branch of the Water Division was engaged principally in supervising the installation of additional service pipes to premises occupied by Government forces, occasioned by the war.

During the year eighteen (18) employees were granted leave of absence for military duty for the duration. Due to the decrease in the personnel, and the difficulty of replacing employees during the war, the department has engaged the services of contractors to assist the departmental forces in the City Proper, Dorchester and West Roxbury districts. The total amount paid to

contractors assisting the department forces in regular maintenance work was as follows:

West Roxbury District, approximately	$15,880 00
Dorchester District, approximately	8,750 00
City Proper District, approximately	24,042.00

A fire, which originated in the woodwork of Warren Bridge, destroyed a portion of the water pipe trestle carrying a 16-inch water main between the City Proper and Charlestown, necessitating the replacing of 271 feet of this trestle and the relaying of an equal amount of 16-inch water main.

Distribution Branch.

The regular work of the Distribution Branch, consisting of installation of new services and fire pipes, repairing of leaks, caring for complaints, shutting off and letting on water, freeing of stoppages in service pipes, etc., was performed in such a manner and at such periods as to cause a minimum delay and inconvenience to applicants for water, water takers and the general public.

The machine shop and plumbing shop were forced to handle all the drilling and connecting of services in addition to the regular work carried on in these shops, such as the machining and assembling of gates, valves and hydrants, and the department assisted the other branches of the Public Works Department in performing special jobs.

In order to check the leakage of water, a Pitometer Survey of downtown Boston started in the latter part of 1941, was completed in 1942, and the contractor was paid for the actual leakage found, not to exceed $14,000.

Business Office.

The campaign inaugurated in 1938 to enforce the payment of outstanding water bills is still in force. Customers in arrears are notified that the flow of water will be reduced, but yet enough water is left on the premises to provide a minimum for health and sanitary requirements. As a result of this campaign the Water Division ended the year 1942 with a surplus of $1,305,742.15, this surplus being due mainly to the

collection of bills past due, and the increased consumption of water in Government properties and war plants.

Main pipe petitions received	3
Domestic service applications	267
Fire pipe applications	13
Special meter tests	261
Hydrant permits issued	25
Repair deposits received	70
Miscellaneous deposits	62

APPROPRIATIONS, EXPENDITURES AND REVENUE.

Amount appropriated	$1,050,540 00	
Amount expended	1,024,086 40	
Balance	$26,453 60	
Amount of money collected during the year		$5,417,183 79
Amount of expenditures from all sources		$4,111,441 64

The Metropolitan assessment for 1942 amounted to $2,906,978.76, an increase of $227,813.44 over the assessment for 1930.

Total amount billed in 1942	$5,229,392 88
Total amount collected for 1942 bills as of December 31, 1942	$4,226,226 43
Total amount abated for 1942 bills as of December 31, 1942	$24,710 15
Total amount collected in 1942 on bills rendered prior to 1942	$993,048 69

This department contacts the water consumers very frequently throughout the year, and the conduct of the office has been such that I believe a spirit of good will between the customers and the employees has been brought about which is beneficial to the consumer and the city.

Respectfully submitted,

DANIEL M. SULLIVAN,
Division Engineer.

Financial Transactions, Water Service, Public Works Department, 1942.

Cash balance from 1941		$76,570 92
Receipts:		
Water rates and services	$5,286,999 72	
Tax titles — water	53,613 15	
		5,340,612 87
		$5,417,183 79
Expenditures from revenue:		
Current expenses and extensions	$1,024,086 40	
Collection Department	99,146 81	
Auditing Department	425 00	
Refunded water rates	460 51	
Refund, sales of meter	10 00	
Refunded water collections	23,162 00	
Metropolitan assessment	2,906,978 76	
		4,054,269 48
		$1,362,914 31
Expenditures from debt account:		
Boston water debt	$37,484 86	
Interest on loans	14,827 50	
		52,312 36
		$1,310,601 95
Unliquidated reserve of 1941		3,965 75
		$1,306,636 20
Cash forwarded to 1943		894 05
Surplus on hand, December 31, 1942		$1,305,742 15
Loan Account:		
Balance outstanding January 1, 1942,	$512,000 00	
Paid during 1942:		
Boston water debt, $37,484 86		
P. W. A. loan 7223, 15,515 14		
	53,000 00	
Balance outstanding December 31, 1942		$459,000 00
Construction Account:		
Extension of mains (from revenue)		$25,937 07
Cost of construction December 31, 1942	$24,509,053 52	
Cost of construction December 31, 1941	24,483,116 45	
Increase in plant cost during year 1942		$25,937 07
Cost of existing works December 31, 1942:		
Pipe, yards and buildings	* $84,332 16	
Engineering expense	57,873 58	
Distribution system	† 24,191,847 78	
Hyde Park water works	175,000 00	
		$24,509,053 52
High pressure fire system		‡2,293,316 75
Total cost		$26,802,370 27

* $10,500 deducted on account of abolishment of Charlestown yard.

† Includes $155,023.89 expended on high pressure fire system in 1925, 1926, 1931, 1932, 1933.

‡ $33,850.96 deducted from cost of high pressure fire system on account of abandonment of pumping station, Battery street.

Table No. 1.

Showing Length of Water Pipes and Connections Owned and Operated by Public Works Department, Water Division, Water Service, and Number of Valves in Same, December 31, 1942.

	Diameter of Pipes in Inches.																Totals.
	48	42	40	36	30	24	20	16	14	12	10	8	6	4	3	2	
Length owned and operated December 31, 1941 (feet)	55,595	16,191	9,599	30,238	75,843	89,324	108,131	365,765	285	1,831,899	451,009	1,193,614	969,556	62,285	11,486	6,509	5,277,329
Gate valves in same	26	4	5	31	50	75	72	760	14	5,177	1,576	4,449	3,155	545	19	16	15,974
Air valves in same	60	5	10	35	113	84	53	101	....	64	1	5	.....	.....	1	14	546
Blow-offs in same	11	5	6	11	33	37	52	76	....	166	40	203	141	66	12	5	864
Length laid and relaid during 1942 (feet)	.....	.....	.....	.....	.....	.....	.....	201	....	266	.....	1,392	.....	.....	153	.....	2,012
Gate valves in same	.....	.....	.....	.....	.....	.....	.....	6	....	5	1	8	2	2	.....	.....	24
Air valves in same	.....	.....	.....	.....	.....	.....	.....	.....	....	.....	.....	.....	.....	.....	.....	.....	.....
Blow-offs in same	.....	.....	.....	.....	.....	.....	.....	.....	....	.....	.....	.....	.....	.....	1	.....	1
Length abandoned during 1924 (feet),	.....	.....	.....	.....	.....	.....	.....	201	....	.....	.....	181	181	.....	153	.....	716
Gate valves in same	.....	.....	.....	.....	.....	.....	1	4	....	2	.....	4	3	1	.....	.....	15
Air valves in same	.....	.....	.....	.....	.....	.....	.....	.....	....	.....	.....	.....	.....	.....	.....	.....	.....
Blow-offs in same	.....	.....	.....	.....	.....	.....	.....	.....	....	.....	.....	.....	.....	.....	2	.....	2
Length owned and operated, including high pressure fire service December 31, 1942 (feet)	55,595	16,191	9,599	30,238	75,843	89,324	108,131	365,765	285	1,832,165	451,009	1,194,825	969,375	62,285	11,486	6,509	5,278,625
Gate valves in same	26	4	5	31	50	75	71	762	14	5,180	1,577	4,453	3,154	546	19	16	15,983
Air valves in same	60	5	10	35	113	84	53	101	....	64	1	5	.....	.....	1	14	546
Blow-offs in same	11	5	6	11	33	37	52	76	....	166	40	203	141	66	11	5	863
High pressure fire service (feet)	.....	.....	.....	.....	.....	.....	20,140	46,953	....	31,756	.....	.....	.....	.....	.....	.....	98,849

999.740 miles in system including high pressure fire service.
18.721 miles in high pressure fire system.

Table No. II.

HIGH PRESSURE FIRE SERVICE.

Showing Length of Water Pipes, Connections, Hydrants and Valves in Same, December 31, 1941.

	20-Inch.	16-Inch.	12-Inch.	8-Inch.	6-Inch.	Totals.
Length owned and operated December 31, 1941 (feet)	20,140	46,953	31,756	—	—	98,849
Gates in same	—	201	144	502	—	847
Blow-offs in same	—	—	—	—	6	6
Lengths laid in 1942 (feet)	—	—	—	—	—	000
Gate valves in same	—	—	—	—	—	000
Length owned and operated December 31, 1942 (feet)	20,140	46,953	31,756	—	—	98,849
Gate valves in same	—	201	144	502	—	847
Blow-offs in same	—	—	—	—	6	6
High pressure fire hydrants	—	—	—	—	—	505

18.72 miles of mains in system.

Table No. III.

Total Number of Hydrants in System, December 31, 1942.

LOCATION.	Lowry.	Boston Lowry.	Boston Post.	Ordinary Post.	Batchelder and Finneran Post.	Ludlow Post.	Chapman Post.	Griffin Post.	Matthews Post.	Boston.	Totals.
Brighton (public)	5	12	203	320	550	....	....	....	....	8	1,098
" (private)	.....	.....	.....	8	.....	....	....	....	....	2	10
Charlestown (public)	25	13	98	33	166	....	....	....	....	2	337
" (private)	13	1	2	37	.....	....	....	....	....	5	58
City Proper (public)	389	26	320	177	551	....	....	....	....	42	1,505
" (private)	5	.....	9	1	2	....	....	....	....	37	54
Dorchester (public)	52	82	608	921	946	....	....	....	....	11	2,620
" (private)	1	1	9	.....	2	....	....	....	....	4	17
East Boston (public)	11	5	150	172	194	....	....	....	....	5	537
" (private)	8	1	1	8	.....	....	....	....	....	25	43
Hyde Park (public)	.....	.....	66	47	583	....	15	....	....	.....	711
" (private)	.....	.....	.....	.....	.....	13	56	....	4	.....	73
Roxbury (public)	3	26	277	213	1,007	....	....	....	....	.....	1,526
" (private)	2	1	3	4	2	....	....	....	....	9	21
South Boston (public)	55	14	169	137	275	....	....	....	....	14	664
" (private)	4	1	1	14	3	....	....	....	....	27	50
West Roxbury (public)	.....	98	322	853	1,061	....	....	....	....	13	2,347
" (private)	.....	.....	.....	15	1	....	....	....	....	1	17
Deer Island (private)	.....	.....	4	16	.....	....	....	....	....	.....	20
Gallup's Island (private)	.....	.....	.....	3	.....	....	....	....	....	1	4
Long Island (private)	.....	.....	.....	6	.....	....	....	....	....	.....	6
Rainsford Island (private)	.....	.....	.....	3	.....	....	....	....	....	.....	3
Thompson's Island (private)	.....	.....	.....	2	.....	....	....	....	....	.....	2
Quincy	.....	.....	.....	9	.....	....	....	....	....	.....	9
Total number (public)	540	276	2,213	2,873	5,333	....	15	....	....	95	11,345
Total number (private)	33	5	29	126	10	13	56	....	4	111	387
Total number (public and private)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11,732
High pressure fire hydrants	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	505
Total hydrants (all kinds)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	12,237

WATERWORKS STATISTICS, CITY OF BOSTON.

FOR THE FISCAL YEAR ENDING DECEMBER 31, 1942.

DISTRIBUTION.

Mains.

Kind of pipe: Cast iron, wrought iron, steel.
Size: 2-inch to 48-inch.
Extended, miles, .245.
Size enlarged, miles, .034.
Total miles now in use, 999.740.
Public hydrants added, 10.
Public hydrants now in use, 12,237.
Stop gates added, 9.
Stop gates now in use, 15,983.
Stop gates smaller than 4-inch, 35.
Number of blow-offs, 863.
Range of pressure on mains, 30 to 90 pounds.

Services.

Kind of pipe and size: Lead and lead-lined, $\frac{1}{2}$-inch to 2-inch; cast iron, 2-inch to 16-inch; wrought iron and cement lined, $\frac{3}{4}$-inch to 2-inch; brass and copper, $\frac{5}{8}$-inch to $2\frac{1}{2}$-inch.

Cost of Replacement of Main Pipe, 1942.

Street.	Location.	District.	Size (Inches).	Feet.	Materials.	Labor.	Inspection.	Total Cost.	Original Size. (Inches.)	Feet.
Forest place	From Eden street	Charlestown.	3	153	$196 93	$270 94	$2 88	$470 75	3	153
Warren Bridge	Between Charlestown and Boston	City.	16	201	907 88	1,226 35	66 24	2,200 47	16	201
Gilbert place	Between Summer and Aldine streets.	City.	8	181	549 04	362 00	58 88	969 92	6	181
Gilbert place	Between Summer and Aldine streets.	City.	8	181	558 05	362 00	36 80	956 85	8	181
	Totals		3	153					3	153
			8	362					6	181
			16	201					8	181
									16	201
	Totals, replacement			716	$2,211 90	$2,221 29	$164 80	$4,597 99		716

Cost of Extension of Main Pipe, 1942.

Street.	Location.	District.	Size. (Inches.)	Feet.	Materials.	Labor.	Inspection.	Total Cost.
Orchard Park street	Between Ambrose and Eustis streets	Roxbury.	12	266	$982 62	$363 15	$51 52	$1,397 29
Pleasantview street	Between Roanoke road and Cummins Highway.	Hyde Park.	8	148	411 15	994 16	195 04	1,600 35
Regan road	Between Galty avenue and Range road	Dorchester.	8	182	503 38	209 30	25 76	738 44
Auriga street	Between Westglow street and dead end	Dorchester.	8	221	412 03	254 15	29 44	695 62
Branch street	Between Spruce and Charles streets	City.	8	141	317 43	365 00	44 16	726 59
Lewis street		Hyde Park.	8	294	573 25	345 42	117 76	1,036 43
Eliot street		Hyde Park.	8	44				
	Totals		8 12	1,030 266				
	Totals, extension			1,296	$3,199 86	$2,531 18	$463 68	$6,194 72

Shutting Off and Turning On Water in 1942.

Number of shut-offs for repairs	4,781
Number of premises turned on after repairs	3,990
Number of shut-offs for vacancy	755
Number of premises turned on for occupancy	711
Number of premises shut off for nonpayment of water rates	9,145
Number of premises turned on again after being shut off for nonpayment	759
Number of premises shut off on account of waste,	8
Number of premises turned on again after being shut off for waste	16
Number of new service pipes turned on for the first time	295
Total number of times water was shut off or turned on	20,349

METER BRANCH, WATER DIVISION.

Table No. 1. Statement of Work Done During the Year 1942.

MAKE.	Applied.	Discontinued.	METERS CHANGED.		Tested.	Repaired in Service.	Repaired in Shop.	Resets.
			Out.	In.				
Hersey Disc	423	289	2,597	3,098	5,695	1,892	3,103	270
Hersey Detector	4	2	8	5	14	162	15	
Hersey Compound	14	1	.....	2	11	30	7	
Hersey Rotary	.....	1	2	.....	2	12	.....	
Worthington Disc	3	24	368	122	471	132	.....	9
Watch Dog	28	73	1,315	1,372	2,672	355	915	93
King	7	21	351	102	474	159	.....	13
Federal	.....	.....	24	.....	19	20		
American	.....	.....	32	35	54	8		
Lambert	.....	1	8	.....	4			
Crown	.....	.....	9	.....	6			
Trident	.....	.....	4	.....	4	.....	2	
Arctic	3	.....	5	5	13	22	4	1
Nash	.....	.....	16	.....	11	4		
Keystone	.....	1	2	.....	2			
Totals	482	413	4,741	4,741	9,452	2,796	4,046	386

Table No. 2. Meters in Service December 31, 1942.

MAKE.	DIAMETER IN INCHES.											Total.
	⅝	¾	1	1½	2	3	4	6	8	10	12	
Hersey Disc	58,262	3,911	1,894	1,022	481	169	138	34	1	....	....	65,912
Hersey Detector	.....	.....	.....	.....	.....	4	46	63	32	24	7	176
Hersey Compound	.....	.....	.....	.....	6	66	60	27	....	....	....	159
Hersey Rotary	321	222	.....	.....	.....	....	....	....	....	....	....	543
Worthington Disc	5,112	14	20	28	40	12	....	....	....	....	....	5,226
Watch Dog	20,367	1,040	941	711	449	392	90	....	....	....	....	23,990
King	2,707	190	6	11	27	....	....	....	....	....	....	2,941
American	533	44	19	.....	.....	....	....	....	....	....	....	596
Federal	441	.....	.....	.....	.....	....	....	....	....	....	....	441
Crown	169	293	23	45	65	21	....	6	....	....	....	622
Nash	39	225	8	.....	5	....	....	....	....	....	....	277
Lambert	186	59	41	.....	1	2	....	....	....	....	....	289
Arctic	1	.....	.....	26	20	17	10	....	....	....	....	74
Keystone	128	7	.....	.....	.....	....	....	....	....	....	....	135
Empire	14	.....	.....	.....	.....	....	....	....	....	....	....	14
Trident	105	.....	6	1	11	20	13	1	1	2	....	160
Totals	88,385	6,005	2,958	1,844	1,105	703	357	131	34	26	7	101,555

Table No. 3. Meters in Shop December 31, 1942.

MAKE.	DIAMETER IN INCHES.									Total.
	⅝	¾	1	1½	2	3	4	6	8	
Hersey Disc	2,559	122	53	3	2	2	3	1	....	2,745
Hersey Compound	.....	.....	....	.....	....	....	11	....	....	11
Hersey Detector	.....	.....	....	.....	....	....	1	1	1	3
Worthington Disc	78	.....	....	.....	....	....	....	....	....	78
Watch Dog	609	88	112	.....	....	1	1	....	....	811
King	500	.....	....	.....	....	....	....	....	....	500
Arctic	.....	.....	....	2	3	....	1	....	....	6
Federal	10	.....	....	.....	....	....	....	....	....	10
Trident	.....	.....	....	.....	....	3	1	....	....	4
Totals	3,756	210	165	5	5	6	18	2	1	4,168

NOTE.— 760 are O. K. ready for use; 3,408 are subject to repairs. Total, 4,168.

Table No. 4. Meters Purchased in Year 1942.

MAKE.	DIAMETER IN INCHES.										Total.
	⅝	¾	1	1½	2	3	4	6	10	12	
Hersey Disc	1,200	50	50	20	11	....	....	....	....	....	1,331
Hersey Compound	.....	....	....	....	1	10	13	3	....	....	27
Hersey Detector	.....	....	....	....	....	....	....	1	1	1	3
Totals	1,200	50	50	20	12	10	13	4	1	1	1,361

Table No. 5. Meters Reset.

MAKE.	DIAMETER IN INCHES.						Totals.	Occupied.	Connection Pieces.
	⅝	¾	1	1½	2	4			
Hersey Disc	232	17	10	7	2	2	270	108	162
Worthington Disc	8	1	.....	.....	.....	.....	9	5	4
Watch Dog	81	7	4	1	.....	.....	93	43	50
King	10	1	2	.....	.....	.....	13	8	5
Arctic	.....	.....	.....	1	.....	.....	1	1	.....
Totals	331	26	16	9	2	2	386	165	221

Table No. 6. Meters Changed in 1942.

MAKE.	METERS TAKEN OUT. DIAMETER IN INCHES.									Total.
	⅝	¾	1	1½	2	3	4	6	8	
Hersey Disc	2,219	203	106	46	21	2	....	....	....	2,597
Hersey Detector	.....	.....	.....	.....	.....	.....	2	5	1	8
Hersey Compound	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Hersey Rotary	1	.....	.....	.....	1	.....	.....	.....	.....	2
Worthington Disc	362	.....	.....	3	2	1	.....	.....	.....	368
Watch Dog	1,066	76	80	47	29	14	3	.....	.....	1,315
King	310	16	16	4	5	.....	.....	.....	.....	351
Arctic	.....	.....	.....	1	3	1	.....	.....	.....	5
Nash	7	3	4	1	1	.....	.....	.....	.....	16
Lambert	4	2	1	.....	1	.....	.....	.....	.....	8
Crown	1	2	2	4	.....	.....	.....	.....	.....	9
Federal	24	.....	.....	.....	.....	.....	.....	.....	.....	24
American	18	14	.....	.....	.....	.....	.....	.....	.....	32
Trident	3	.....	.....	.....	.....	1	.....	.....	.....	4
Keystone	1	.....	.....	.....	.....	.....	.....	.....	.....	1
Empire	1	.....	.....	.....	.....	.....	.....	.....	.....	1
Totals	4,017	316	209	106	63	19	5	5	1	4,741

Table No. 6. Meters Changed in 1942.— Concluded.

MAKE.	METERS PUT IN. DIAMETER IN INCHES.									Total.
	⅝	¾	1	1½	2	3	4	6	8	
Hersey Disc	2,715	164	122	57	36	4	....	....	....	3,098
Hersey Detector	.....	.....	.....	.....	....	....	....	4	1	5
Hersey Compound	.....	.....	.....	.....	1	1	....	....	....	2
Hersey Rotary	.....	.....	.....	.....	....	....	....	....	....	
Worthington Disc	117	.....	.....	5	....	....	....	....	....	122
Watch Dog	1,048	159	82	44	25	12	2	....	....	1,372
King	89	6	6	.....	1	....	....	....	....	102
Arctic	.....	.....	.....	3	1	1	....	....	....	5
Nash	.....	.....	.....	.....	....	....	....	....	....	
Lambert	.....	.....	.....	.....	....	....	....	....	....	
Crown	.....	.....	.....	.....	....	....	....	....	....	
Federal	.....	.....	.....	.....	....	....	....	....	....	
American	31	4	.....	.....	....	....	....	....	....	35
Totals	4,000	333	210	109	64	18	2	4	1	4,741

Table No. 7. Causes for Meter Changes.

MAKE.	Test.	Do Not Register.	No Force.	Enlarged.	Spindle Leak.	Coupling Leak.	Frost.	Set Backwards.	Defaced.	Total.
Hersey Disc	187	1,947	16	11	128	164	56	7	81	2,597
Hersey Detector	5	3	....	....	.....	.....	.....	....	.....	8
Hersey Compound	.....	.....	....	....	.....	.....	.....	....	.....	
Hersey Rotary	.....	2	....	....	.....	.....	.....	....	.....	2
Worthington Disc	89	254	....	1	11	9	2	....	2	368
Watch Dog	24	1,187	....	1	66	6	11	3	17	1,315
King	5	186	3	5	95	3	42	....	12	351
Arctic	.....	.....	....	....	.....	2	1	....	2	5
Nash	.....	9	....	1	1	2	.....	....	3	16
Lambert	.....	5	....	....	.....	1	.....	....	2	8
Crown	1	4	1	....	.....	1	.....	....	2	9
Federal	1	7	....	1	6	5	4	....	.....	24
American	.....	5	....	....	13	4	7	....	3	32
Trident	.....	4	....	....	.....	.....	.....	....	.....	4
Keystone	.....	1	....	....	.....	.....	.....	....	.....	1
Empire	.....	.....	....	....	.....	.....	.....	....	1	1
Totals	312	3,614	20	20	320	197	123	10	125	4,741

Table No. 8. Meters Applied in 1942.

MAKE.	DIAMETER IN INCHES.									Total.
	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{2}$	2	3	4	6	12	
Hersey Disc	381	10	6	7	7	5	5	2	....	423
Worthington Disc	3	.....	....	.....	.....	.....	.....	....	....	3
Hersey Compound	.....	.....	....	.....	.....	1	11	2	....	14
Hersey Detector	.....	.....	....	.....	.....	....	2	1	1	4
Watch Dog	13	2	1	4	5	2	1	....	....	28
King	3	2	1	.....	1	.....	.....	....	..	7
Arctic	.....	.....	....	1	2	.....	.....	....	....	3
Totals	400	14	8	12	15	8	19	5	1	482

NOTE.— 10 were applied on old service pipes; 472 were applied on new service pipes. Total, 482.

Table No. 9. Meters Discontinued in 1942.

MAKE.	DIAMETER IN INCHES.									Total.	Discontinued.	Vacant.	Connection Pieces.
	¾	¾	1	1½	2	3	4	6	8				
Hersey Disc	719	47	26	12	7	1	1	1	....	814	289	95	430
Hersey Compound	.....	....	....	....	....	....	1	....	....	1	1		
Hersey Detector	.....	....	....	....	....	....	2	1	1	4	2	.....	2
Hersey Rotary	1	....	....	....	....	....	....	....	....	1	1		
Worthington Disc	76	....	....	....	....	....	....	....	....	76	24	8	44
Watch Dog	259	10	11	5	4	2	....	....	....	291	73	32	186
King	55	4	5	....	....	....	....	....	....	64	21	5	38
American	.....	2	....	....	....	....	....	....	....	2	.....	.....	2
Federal	6	....	....	....	....	....	....	....	....	6	.....	.....	6
Lambert	1	1	....	....	....	....	....	....	....	2	1	.....	1
Keystone	.....	1	....	....	....	....	....	....	....	1	.....	1	
Empire	1	....	....	....	....	....	....	....	....	1	1		
Crown	.....	1	....	....	....	....	....	....	....	1	.....	.....	1
Totals	1,118	66	42	17	11	3	4	2	1	1,264	413	141	710

Table No. 10. Meters Repaired in Service.

MAKE.	Defaced and Broken Clocks.	Spindle Leaks.	Broken Counter Boxes.	Examinations.	Coupling Leaks.	Miscellaneous.	Totals.
Hersey Disc	863	493	20	43	466	34	1,892
Hersey Detector	81	.....	12	64	.....	5	162
Hersey Compound	17	.....	6	5	.....	2	30
Worthington Disc	37	21	.....	15	59	.....	132
Watch Dog	59	213	24	.....	56	3	355
King	14	95	11	2	37	.....	159
Federal	4	2	1	.....	12	1	20
American	1	.....	1	.....	6	.....	8
Hersey Rotary	.....	.....	3	.....	9	.....	12
Nash	.....	.....	1	1	2	.....	4
Arctic	5	5	1	2	7	2	22
Totals	1,054	829	80	132	654	47	2,706

APPENDIX F.

REPORT OF BOSTON AND CAMBRIDGE BRIDGES COMMISSION.

Boston, January 2, 1943.

To the Honorable the Mayor.

Sir,— As Commissioner for the City of Boston, I respectfully submit herewith the annual report of the Boston and Cambridge Bridges Commission for the year ending December 31, 1942.

The commission is composed of two members, one appointed by the Mayor of the City of Boston and the other by the Mayor of the City of Cambridge, under provisions of chapter 467, Acts of 1898.

The commission has charge of the maintenance of the following-named bridges between Boston and Cambridge: Cottage Farm, Longfellow and Prison Point.

As there is no separate appropriation made for the City of Boston's portion of the expenses of this commission, the same is taken from the appropriation for the Bridge and Ferry Division, Bridge Service. The amount expended during the fiscal year ending December 31, 1941, under the regular appropriation, was $4,872.81.

Bridges — Construction of.
Longfellow Bridge.

Under a loan for "Bridges — Construction of," a contract was awarded to J. A. Singarella Company, approved by the Mayor November 26, 1941, for strengthening the transverse floor beams between arch ribs D and E, both sides of the bridge, where directed. The work also included repairing sidewalk railings, repairing arch posts and repairing or renewing cross bracing, etc., where directed. The work was commenced December 5, 1941, and completed December 23, 1942, at a total cost of $59,998.15. One half the cost of the work was paid by Boston and one half by Cambridge.

Respectfully submitted,

George G. Hyland,
Commissioner for the City of Boston.

Boston and Cambridge Bridges. Expenditures for the Year Ending December 31, 1942.

Being the Portion Paid by the City of Boston, Which is One Half of the Total Expenditure

	Administration.	Cottage Farm Bridge.	Longfellow Bridge.	Prison Point Bridge.	Total
Salaries	$50 00	.....	$1,565 00	.....	$1,615 00
Inspection	.....	$172 00	220 00	$210 00	602 00
Light	.....	869 81	1,692 81	.....	2,562 62
Rent	.....	.....	78 00	.....	78 00
Printing and stationery	6 62	.....	.....	.....	6 62
Repairs	.....	8 57	.....	.....	8 57
Totals	$56 62	$1,050 38	$3,555 81	$210 00	$4,872 81